

**SCREENING SITE INSPECTION
FOR
CAMP ADAIR
CORVALLIS, OREGON**

CERCLIS ID NO. OR0001097161

Prepared for:

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Region 10
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Seattle, Washington 98101**

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Prepared by:

**URS Consultants, Inc.
1100 Olive Way, Suite 200
Seattle, Washington 98101**

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ABBREVIATIONS AND ACRONYMS

Air Force	United States Air Force
Army	United States Army
bgs	below ground surface
CLP	Contract Laboratory Program
CRQL	contract-required quantitation limit
DL	detection limit
EPA	United States Environmental Protection Agency
GSA	General Services Administration
HPLC	high-purity, low conductivity
IDW	investigation-derived waste
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
msl	mean sea level
Navy	United States Navy
NPL	National Priorities List
ODEQ	Oregon Department of Environmental Quality
OWRD	Oregon Water Resources Department
ppb	parts per billion
QAPP	quality assurance project plan
RCRA	Resource Conservation and Recovery Act
SAGE	Strategic Air Guidance Equipment
SDWA	Safe Drinking Water Act
SI	site inspection
SQL	sample quantitation limit
SSI	site screening inspection
SVOC	semivolatile organic compound
TSOP	Technical Standard Operating Procedures
URS	URS Consultants, Inc.
VLI	Valley Landfill, Inc.
VOC	volatile organic compound
WAA	War Assets Administration

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-W9-0054 and Work Assignment No. 54-17-0JZZ, URS Consultants, Inc. (URS), conducted a screening site inspection (SSI) of Camp Adair, near Corvallis, Oregon.

An SSI is the initial phase of the EPA site inspection (SI) process. The purpose of the SI process is to evaluate actual or potential environmental or public health hazards at a particular site relative to other sites across the nation in order to identify remedial action priorities. The purpose of the SSI process is to collect sufficient data in order to evaluate the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, to establish priorities for additional action. The SI process and this SSI do not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

The initial site visit for this site was conducted on August 8, 1995, for a preliminary assessment. Sampling was conducted on April 9, 10, and 11, 1996. Photodocumentation of the sampling is presented in Appendix A.

This report presents the findings of the Camp Adair SSI and defines the methods that were used to accomplish each objective. This plan is organized in the following manner:

- Section 1 Introduction—summary of purpose
- Section 2 Site Background—site history
- Section 3 Exposure Pathways and Potential Receptors
- Section 4 Sampling Program—sampling rationale and procedures
- Section 5 Sampling Results
- Section 6 References
- Appendix A Sampling Photodocumentation—April 9, 10, and 11, 1996
- Appendix B Net Precipitation Calculation
- Appendix C Well Logs
- Appendix D Groundwater Sampling Program, Coffin Butte Landfill
- Appendix E Laboratory Data Results and Data Validation Reports
- Appendix F Target and Actual Analytical Objectives

2.0 SITE BACKGROUND

Site Name: Camp Adair

CERCLIS ID No.: OR0001097161

Location: Seven Miles North of Corvallis, Oregon

Latitude: 44°41'00" North

Longitude: 123°13'00" West

Legal Description: T 10S, R 4W, Sections 2-9, 16-21, 28-32
T 10S, R 5W, Sections 1-5, 7-16, 21-27
T 9S, R 4W, Section 31
T 9S, R 5W, Sections 1-30, 31-36
T 9S, R 6W, Sections 1-2, 11-15, 22-27
T 8S, R 5W, Sections 31-36

Site Owner/Operators:

Multiple site owners include:

U.S. Army Corps of Engineers
Oregon Department of Fish and Wildlife (E.E. Wilson Wildlife Area)
City of Adair Village
City of Albany
Valley Landfill, Inc.
Benton County Parks
Oregon State University (Paul M. Dunn Forest, McDonald Forest)
U.S. Forest Service (Siuslaw National Forest)
Private owners of agricultural and forest lands

Site Contacts: Major James Lyman
(partial) Oregon National Guard
P.O. Box 14350
Salem, Oregon 97309-5047
(541) 945-3914

Mr. David Burdeau
E.E. Wilson Wildlife Area
2955 Camp Adair Road
Monmouth, Oregon 97361
(541) 745-5334

Ms. Wanda Tobiassen
City of Adair Village
6030 NE Carr Avenue
Corvallis, Oregon 97330
(541) 745-5507

Mr. Al Kitzman
Benton County Parks
360 SW Avery
Corvallis, Oregon 97333
(541) 924-6016 (pager)

Mr. William Webber
Valley Landfill, Inc.
P.O. Box 807
Corvallis, Oregon 97339
(541) 757-9067

The Camp Adair site was used by the United States Army (Army) as a World War II training facility. Because some of the training activities involved detonation of ordnance and the use of other potentially contaminating chemicals, Camp Adair is being evaluated by the United States Environmental Protection Agency (EPA).

2.1 SITE LOCATION/DESCRIPTION

The site consists of 56,815.17 acres (approximately 89 square miles) approximately 7 miles north of Corvallis, Oregon (U.S. Army Corps 1993). It is situated within northern Benton County and southern Polk County, adjacent to the Willamette River on the east and the Coast Range Mountains on the west. North-south access through the site is by State Highway 99W. Figure 2-1 shows the site location.

Most activities of concern took place on the southern half of the site. The PA site visit conducted on August 8, 1995, revealed that the majority of military activity occurred in

the area south of the Luckiamute River (approximately 2.5 miles north of Airlie Road). All references within this report relate to only this southern portion. Figure 2-2 shows the southern site area.

Camp Adair is composed of flat agricultural lands, numerous wetland areas, and gently rolling hills with abundant forests. The topography varies between 200 feet above mean sea level (msl) for the farmlands to 2,000 feet above msl for the hilltops. The western portion of the site consists mostly of fir forest on privately owned lands and on the Paul M. Dunn Forest (managed by the University of Oregon). Agriculture and unfarmed grasslands are located along the north and northeast portions of the site. The state-managed E.E. Wilson Wildlife Area is east of Highway 99W. The city of Adair Village and the McDonald Forest are along the southeast portion of the site.

The center of past military activities on the site occurs along Highway 99W and Coffin Butte Road/Camp Adair Road. To the east of Highway 99W on Camp Adair Road lies the former World War II cantonment (military quarters). The old building foundations and streets of the cantonment remain, although they are slightly overgrown by blackberry bushes. The Oregon Department of Fish and Wildlife currently manages this area as part of the E.E. Wilson Wildlife Area. Figure 2-2 shows the general outlines of the street configurations.

West of the cantonment area and across Highway 99W, on Coffin Butte Road, lies the Coffin Butte Landfill. The landfill was formerly used by the Army and is now operated by a private Subtitle D Resource Conservation and Recovery Act (RCRA) landfill entity, Valley Landfill, Inc. (VLI).

South of the cantonment area lies the city of Adair Village, population 595. Adair Village is built over the former site of naval hospital facilities and a United States Air Force (Air Force) station. The wastewater treatment facility constructed by the Air Force is north of the city and is still active.

Boise Cascade operated a mill west of the cantonment area on Camp Adair Road from 1973 until 1981.

Approximately one-third of the site is designated for public recreational purposes. The Paul M. Dunn Forest and the McDonald Forest together encompass approximately 10,000 acres on the southwest portion. These areas are managed by Oregon State University and provide outdoor recreation such as hiking, biking, and photography.

The Peavy Arboretum, which is accessed from Highway 99W, encompasses 40 acres. This multispecies arboretum is managed by Oregon State University's College of Forestry and offers interpretive hiking trails and picnic facilities to the public.

The E.E. Wilson Wildlife Area encompasses 1,683 acres in the central portion of the site along Highway 99W. This area offers multiple recreational and education opportunities including fishing, hunting, wildlife viewing, hiking, and bicycling. In addition, classes are held here and there is a designated area for dog training.

2.2 HISTORICAL SITE SUMMARY

Camp Adair was developed by the Army from 1942 through 1945 to train troops for World War II. The construction of the base required the razing of several homes and the relocation of the town of Wells, railroad tracks, and cemeteries. During its prime, the camp was considered the second largest city in Oregon. Four Army divisions, each with 15,000 men, trained at Camp Adair. These divisions were the 91st Powder River Infantry Division, the 96th Deadeye Infantry Division, the 104th Timberwolf Infantry Division, and the 70th Trailblazer Infantry Division. Figure 2-3 shows how Camp Adair was used when occupied by the military. The areas where weapons training occurred are shaded and included ranges for rifle, pistol, machine gun, anti-tank gun, anti-aircraft, and grenade weapons (ordnance). Additionally, gas chambers were used in the training and are noted on the figure.

The cantonment was immediately east of Highway 99W along the valley floor. Training maneuvers were conducted west of the highway in the hills. Several artillery ranges were designated in the west portion of the site.

When the Army divisions left Camp Adair for their assignments (between 1943 and 1945), the Camp Adair hospital was turned over to the U.S. Navy (Navy) as the Corvallis Naval Hospital. The hospital facilities were enlarged to care for 3,600 patients. War casualties from the Pacific were brought by train to Camp Adair for treatment and recuperation (BCHS 1992).

The Army training camp remained active until 1946, at which time the War Assets Administration (WAA) declared the land and buildings to be in excess. The Army removed all of the buildings in the cantonment area, leaving only the foundations. Most of the property was sold to private parties for agricultural and forest harvest lands. The Oregon Department of Fish and Wildlife was deeded an area of approximately 1,683 acres, which was established as a wildlife refuge and game farm in 1950. The hospital

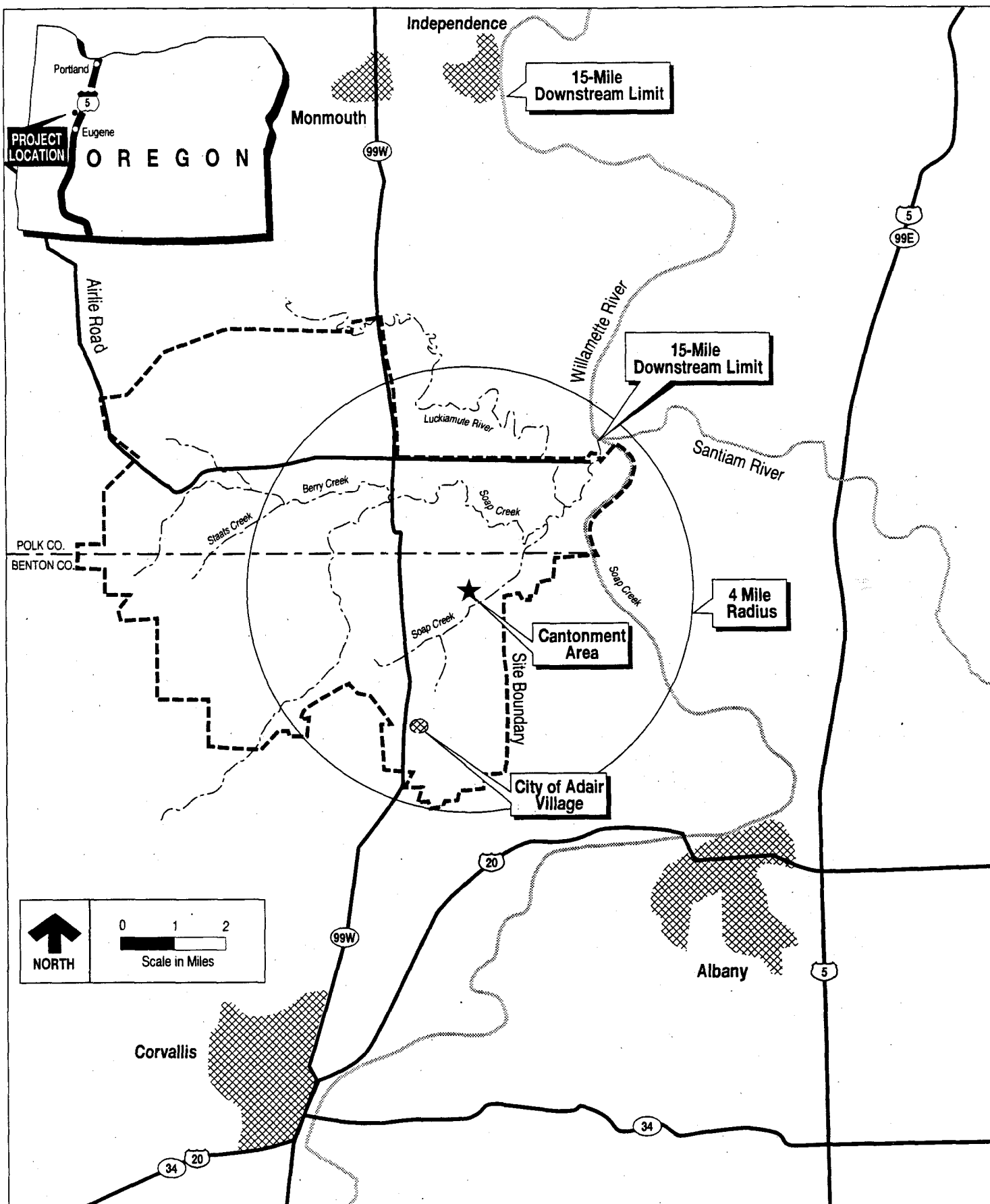
wards were converted into apartments for students (Camp Adair Village) and were used for this purpose from 1946 until 1951.

In 1958 and 1959, the Air Force acquired 587.51 acres south of the cantonment area—including the Naval Hospital—for use as the Adair Air Force Station. The Adair Air Force Station was the command center for the Portland Air Defense Section, which protected the west coast from air attack. A radar information sorting facility called Strategic Air Guidance Equipment (SAGE) and new housing facilities were constructed on site. In addition, the Air Force began construction of the ballistic missile on site; however, the program was abandoned due to lack of funding. The Air Force remained active on site until 1970, at which time the land was declared in excess and reported to the General Services Administration (GSA) for disposal.

GSA assumed accountability for 736 acres not already disposed of by WAA. GSA quitclaim deeded (transferred title of) 124 acres to Plywood Products, Inc., 85 acres to the State of Oregon, and 527 acres to the National Guard Bureau. GSA transferred 140 acres to the Department of Agriculture and 26 acres to the Secretary of Health, Education, and Welfare, which quitclaim deeded 214 acres to the U.S. International University and 112 acres to the City of Albany. GSA also quitclaim deeded 62 acres to A.G. Proctor Company and 60 acres to Wells Property, Inc.

In 1960, Georgia Pacific purchased the property and a small mill on Camp Adair Road owned by Plywood Products, Inc. In 1973, Boise Cascade purchased the mill site and continued operating the mill until 1981. In 1990, this area underwent site remediation of contaminated soils by Boise Cascade. After remediation was completed, Boise Cascade donated the land to the City of Adair Village (Tobiassen 1995; Lambier 1990).

The Coffin Butte Landfill was purchased in 1975 by VLI. On May 25, 1976, Adair Village was incorporated.



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Figure 2-1
Camp Adair Site Location Map

Camp Adair
Corvallis, Oregon
SCREENING SITE INSPECTION

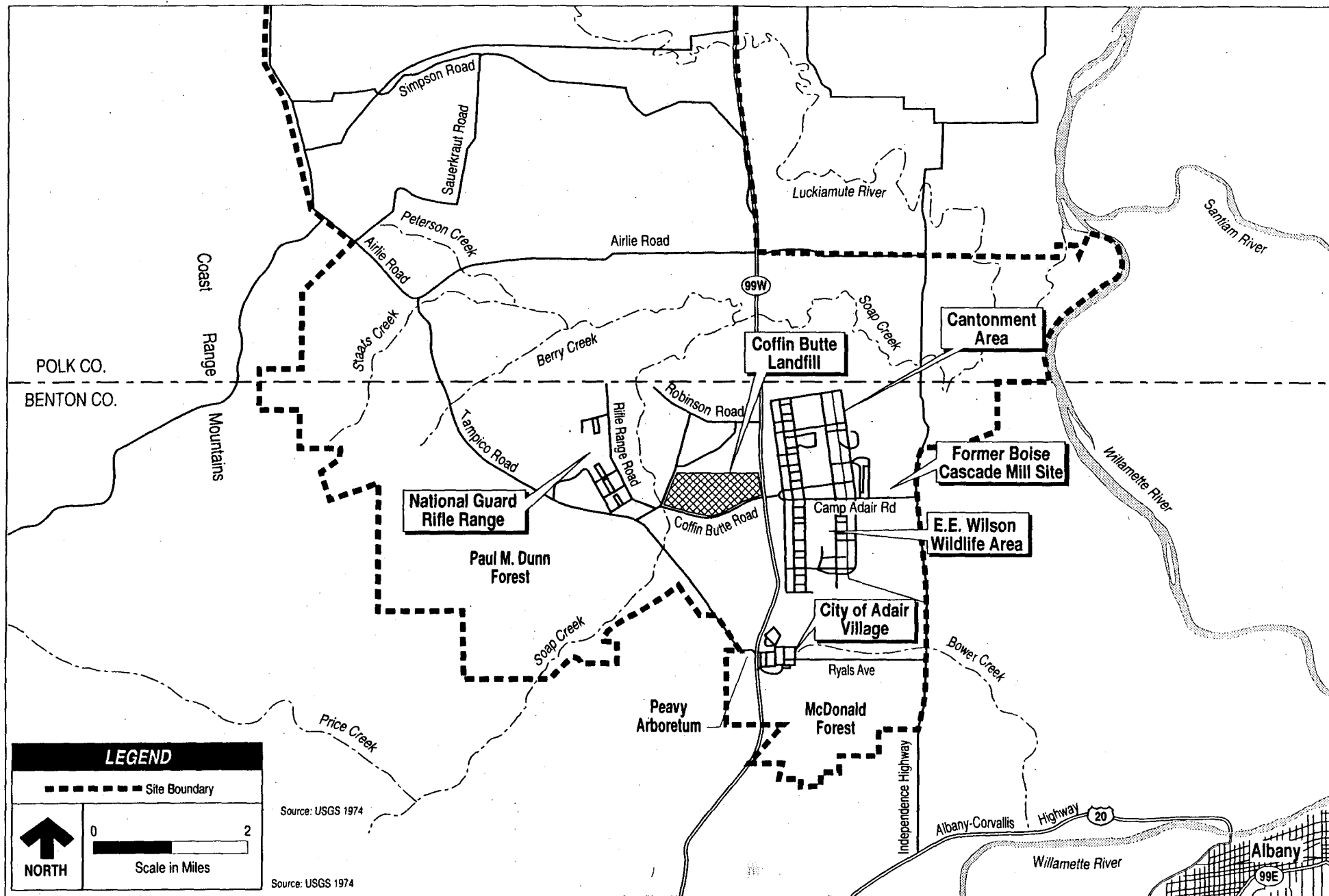
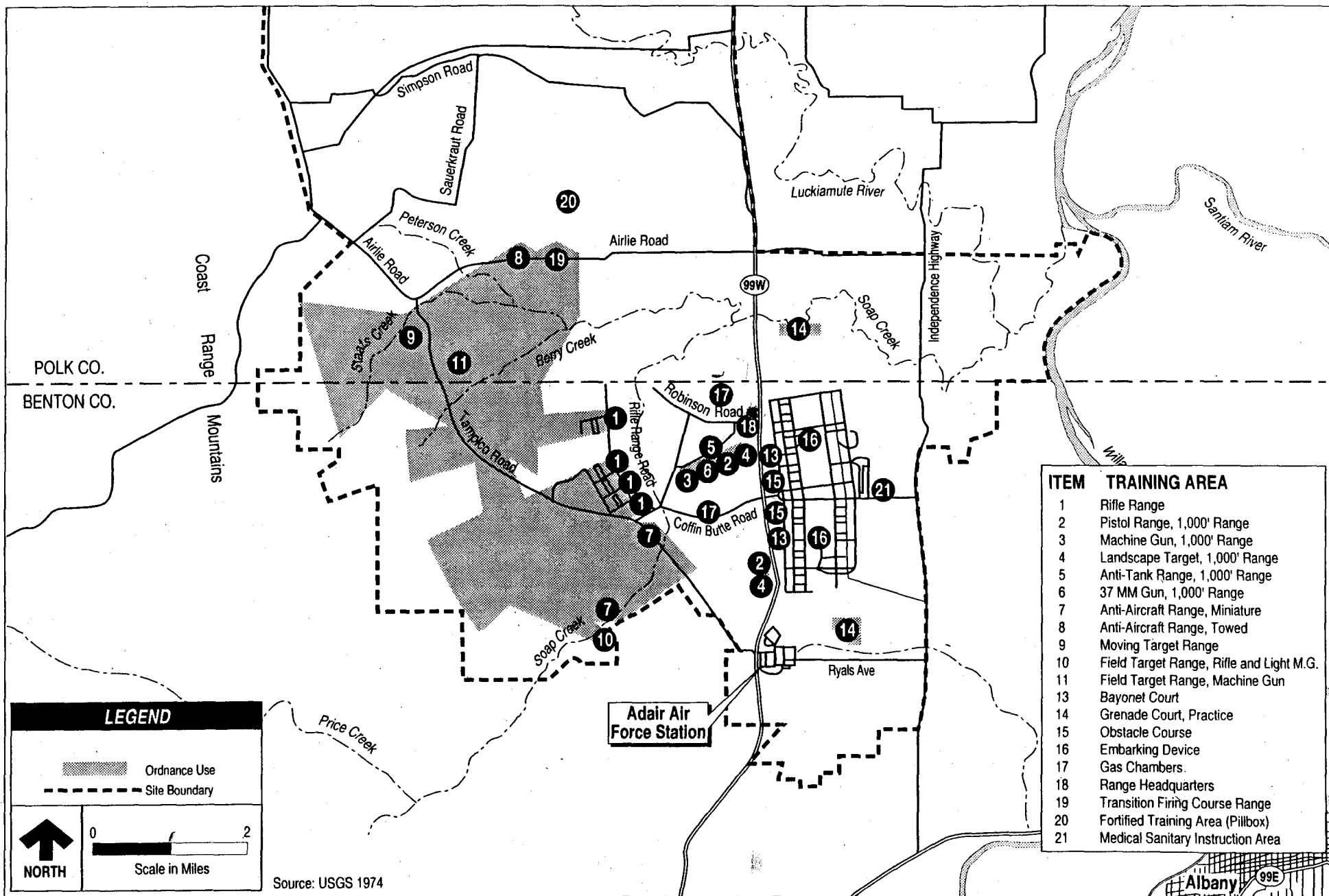


Figure 2-2
Camp Adair Site Map 1995

Camp Adair
Corvallis, Oregon
SCREENING SITE INSPECTION

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Figure 2-3
Camp Adair Site Map 1940-1960

Camp Adair
Corvallis, Oregon
SCREENING SITE INSPECTION

3.0 EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

3.1 GROUNDWATER PATHWAY

3.1.1 Geology and Hydrogeology

The Camp Adair area is part of a broad alluvial plain that lies between the Cascades Mountain range and the Willamette Valley of northwestern Oregon. The lowland areas are within an alluviated valley plain with elevations ranging from 200 to 300 feet above msl, and irregular bottom lands along the streams that are 5 to 30 feet below the valley-plain terrace. The upland parts of the area consist of hills and ridges of the Coast Range at elevations ranging from 500 to 2,000 feet above msl (USGS 1974).

Camp Adair lies along the northern end of a prominent Lower Eocene volcanic feature. The basalt feature consists of dark greenish-gray aphanitic to porphyritic flows, breccia, tuff, and related intrusive rocks with pillow structures and zeolite and calcite amygdules (small bubble in lava filled with secondary minerals). West of this basaltic feature, on the westernmost portion of the site, lies the Siletz River Volcanic Series, including subordinate waterlaid tuffaceous sedimentary rocks known as the Kings Valley siltstone (USGS 1961). Alluvial deposits (clays, silty clays with gravel, or silty sands) overlie the volcanics and are present along the lower slope areas of Coffin Butte (ODEQ 1995).

Along the northeast corner of the site, where the Willamette and Luckiamute rivers are situated, the floodplains and the low terrace lands are underlain by beds of silt, clay, sand, and gravel. These alluvial beds are almost 100 to 150 feet thick in the central parts of the Willamette Valley and taper out entirely at the edges of the plains of the tributary rivers. The bedrock materials of the region underlie the alluvial deposits. The alluvial materials are not highly productive and the sandstone bedrock generally does not yield large quantities of water (OWRD 1952).

The primary aquifers in the area are tertiary-quaternary sedimentary deposits in the low-lying plains and the tertiary rocks of the Coastal Range in the upland areas (USGS 1984). The depth to groundwater ranges from 5 to 20 feet below ground surface (bgs) in the lowlands to 100 feet bgs in the high areas (OWRD 1995). The primary method of groundwater recharge for the area is precipitation, which averages 42.70 inches annually (USDC 1973). The annual net precipitation is 29.72 inches (USDC 1973). (See Appendix B.) Late autumn and winter are the primary seasons of aquifer recharge (USGS 1974).

The topographic features of the site strongly influence the groundwater flow patterns in the alluvium and shallow bedrock. Specifically, at Coffin Butte Landfill, the general groundwater flow is to the west along the western portion of the landfill and to the east along the eastern portion of the landfill (ODEQ 1995).

At the cantonment area the shallow groundwater was found to "parallel the surface topography and eventually discharge into the on-site pond" (Lambier 1990). Because of the low permeability of the silty soils in the area, the rate of flow is estimated to be 1 foot per year (Lambier 1990). Historical attempts (suspected to be by the military) to place deep wells at the cantonment area were unsuccessful, apparently due to the presence of extensive clay and silty soils beneath the site. The depth to water in this area is reported to fluctuate as much as 10 feet. This fluctuation is related to the seasonal changes of precipitation (Lambier 1990).

Appendix C contains well logs that give a general idea of the site lithology (OWRD 1995).

3.1.2 Groundwater Receptors

The largest cities in the region—Corvallis, Albany, and Adair Village—all receive their municipal water from surface water sources upriver from the site (USGS 1974; Tobiasen 1995). The major source of drinking water for the Camp Adair site, excluding the Adair Village, is private domestic groundwater wells. According to the records at the Oregon Water Resources Department (OWRD), there are 238 domestic groundwater wells within the borders of Camp Adair, with an estimated drinking water population of 700 (OWRD 1995). (See Appendix C for a map of the general locations of these wells.)

A total of 1,049 private domestic wells and 7 community drinking water wells were identified within a 4-mile radius of the Camp Adair boundary. These wells are all located within rural areas that are not supplied by municipal services. The seven community wells are owned and operated by small housing communities. These wells were assumed to supply 20 people each. A total of 3,224 groundwater users were estimated within 4 miles of the site boundaries; this area encompasses approximately 180 square miles. Table 4-1 provides specific details about the drinking water populations within a 4-mile radius of the Camp Adair boundary (OWDR 1995; USDC 1990).

Using the cantonment area as a more specific point, an estimated 1,543 groundwater users are located within a 4-mile radius of the cantonment area. Table 4-2 provides specific details about the wells in this area. Generally, the north and west portions of the site appear to have little groundwater productivity. Most of the drinking water wells

Table 3-1
Groundwater Drinking Populations Within 4 Miles of the Camp Adair Boundary

Distance From Center (Miles)	Number of Domestic Wells	Domestic Population	Number of Community Wells	Community Population	Total Population
On site	238	700	0	0	700
0 to 0.25	50	147	0	0	147
0.25 to 0.5	49	144	0	0	144
0.5 to 1	99	291	0	0	291
1 to 2	211	620	0	0	620
2 to 3	207	609	3	60	669
3 to 4	195	573	4	80	653
Total	1,049	3,084	7	140	3,224

Note: Population figures were based on an estimate of 2.94 people per household (USDC 1990). Community wells were assumed to support a well population of 20 users each.

Table 3-2
Groundwater Drinking Populations Within 4 Miles of the Cantonment Area

Distance From Center (Miles)	Number of Domestic Wells	Domestic Population	Number of Community Wells	Community Population	Total Population
0 to 0.25	NA	0	0	0	0
0.25 to 0.5	NA	0	0	0	0
0.5 to 1	NA	0	0	0	0
1 to 2	144	426	0	0	426
2 to 3	124	367	0	0	367
3 to 4	248	730	1	20	750
Total	516	1,523	1	20	1,543

Note: Population figures were based on an estimate of 2.94 people per household (USDC 1990). Community wells were assumed to support a well population of 20 users each.

are within the east portion of the site. The number of wells increases substantially from north to south.

3.1.3 Groundwater Quality

3.1.3.1 *Coffin Butte Landfill*

The Coffin Butte Landfill currently maintains 45 on-site monitoring wells. These wells are all part of a continuing groundwater study conducted under the guidance of the Oregon Department of Environmental Quality (ODEQ). Some of these wells are used for the quarterly groundwater sampling program at the landfill. The parameters analyzed by the program include "typical landfill parameters plus VOCs (volatile organic compounds) and radioactive particles" (Voss 1995a). Appendix D contains some of the analytical results.

Low concentrations of VOCs and metals have been detected in the groundwater at Coffin Butte Landfill. Because of these detections, the landfill site was placed on the ODEQ Site Assessment Program in July 1995. A historical review of all groundwater data seems to indicate that low concentrations of possible landfill contaminants have infiltrated the shallow aquifers near the closed landfill and cell 1A in the active landfill. No detections of VOCs have been above the respective maximum contaminant levels (MCLs) or health-based drinking water standards (EMCON 1995a).

Low concentrations of VOCs have been detected in the two monitoring wells downgradient from the closed landfill, wells MW-20 and MW-21 (Figure 1 in Appendix D). Additionally, one piezometer, P-9, was sampled once in 1994 and had detections of "elevated concentrations of inorganics, cations, and anions, with total dissolved solids and manganese concentrations exceeding secondary MCLs" (EMCON 1995a). The monitoring wells are screened to approximately 11 through 20 feet bgs (EMCON 1995a).

One nearby residential well, Helms well, is approximately 300 feet southwest of the closed portion of the landfill, across Soap Creek. Analytical results from water samples collected from this well have revealed low concentrations of VOCs, including methylene chloride, trichlorofluoromethane, and 1,1,1-trichloroethane. Trichlorofluoromethane does not have a drinking water standard, and 1,1,1-trichloroethane has a drinking water standard of 200 parts per billion (ppb). Methylene chloride was believed to have been a laboratory contaminant. The landfill may not be the source of these detected compounds because the Helms well's aquifer is believed to be separated from the closed landfill aquifer. A water table study conducted of the landfill site revealed that Soap

Creek acts as a groundwater divide based on potentiometric contours (EMCON 1995a; ODEQ 1995).

On March 3, 1995, five monitoring wells (MW-13, MW-10D, MW-10S, MW-11D, and MW-11S) were sampled for radioactive substances. Four of these wells are downgradient of cell 1A, and one is upgradient of the landfill. Groundwater samples were analyzed for gross alpha and gross beta particle activities in water by using an analytical method screening technique according to the limits set forth under the federal Safe Drinking Water Act (SDWA). The sample results demonstrate that there is no leaching of radioactive material from the landfill to the groundwater (see Appendix D) (EMCON 1995a).

Tetrachloroethene and VOCs have been detected in wells MW-10S/D and MW-11S/D. These wells are downgradient from cell 1A. (See Appendix D for a summary table of the maximum concentrations detected in these wells.)

The Coffin Butte Landfill contains a leak detection system for the recently constructed leachate lagoon and cell 2. The system consists of dedicated Redi-flo2 Grundfos electric submersible pumps within riser pipes that provide access to low spots below the leachate sumps. The detection system revealed a minor leak in the primary geomembrane liner to the leachate lagoon. Between July and August 1995, VLI reported draining the leachate lagoon and repairing the liner (EMCON 1995b).

3.1.3.2 Mill Property

Numerous groundwater investigations have been conducted at the former mill property on Camp Adair Road. These investigations included sampling the shallow groundwater (water table) through piezometers and temporarily installed drive-points. The groundwater samples were submitted for analysis of suspected contaminants, including pentachlorophenol, tetrachlorophenol, petroleum hydrocarbons, lead, and VOCs. Analytical results indicated low concentrations of pentachlorophenol and lead, with maximum concentrations of 2.7 ppb and 16 ppb, respectively (Lambier 1990).

Site remediation by soil removal was conducted by Boise Cascade in 1990. After the site remediation, the groundwater was sampled and analyzed. Analytical results indicated 1.3 ppb of pentachlorophenol at the glue water sump. No other contaminants were detected (Lambier 1990).

3.2 SURFACE WATER PATHWAY

3.2.1 Surface Water Flow

Camp Adair is on more than 56,000 acres that border the basaltic Coast Range and the alluvial valley of the Willamette Valley. The area has a relatively mild and wet climate, with an average annual precipitation of 42.70 inches and a 2-year 24-hour precipitation of 0.4 inch (NOAA 1973; USDC 1973). Surface water flow for the Camp Adair area eventually reaches the primary river, the Willamette River, located along the eastern boarder of the site approximately 3.5 miles east of the cantonment area (USGS 1974). The Willamette River flows south to north with an average annual discharge of 14,320 cubic feet (USGS 1993).

The Soap Creek drainage area is responsible for most of the surface water drainage of the site. The western portion of the site is drained primarily by the Soap Creek drainage area, consisting of Soap Creek (13 miles long), Peterson Creek (2 miles long), Staats Creek (4.5 miles long), and Berry Creek (5.5 miles long). Soap Creek eventually discharges into the Luckiamute River, 1 mile upstream from the Willamette River.

A tributary of Soap Creek is located on the mill property and flows into a small pond. Shallow groundwater in the area is believed to discharge to the pond and creek, maintaining a minimal base flow of surface water at the site.

Adair Village is drained by Bowers Slough and its numerous tributaries located along the alluvial plain of the eastern portion of the site. Bowers Slough runs approximately 4.5 miles southeast from Adair Village to the Willamette River.

3.2.2 Surface Water Receptors

Corvallis, Albany, and Adair Village all receive their municipal water supplies from surface water sources. Corvallis obtains its water mainly from Rock Creek; auxiliary supplies come from the Willamette River. Albany receives its water from the South Santiam River (USGS 1974). Adair Village collects its water on the Willamette River, approximately 3 miles upstream from the Camp Adair site.

No surface water intakes used for drinking water purposes are known to exist within 15 miles downstream of the Camp Adair site (USGS 1974).

It is estimated that the Camp Adair site contains over 2,000 acres of wetlands. These wetlands occur along the known water bodies of Peterson Creek, Staats Creek, Berry

Creek, Soap Creek, Luckiamute River, and Willamette River. The wetlands in the western portion of the site consist of an estimated 18 river miles (Soap, Staats, Peterson, and Berry creeks) of palustrine scrub-shrub. A lowland wetland area exists where Peterson Creek and Staats Creek merge with Berry Creek. This area is estimated to contain 150 acres of palustrine wetlands (USDI 1975, 1980).

Soap Creek east of Highway 99W contains 7 river-miles of wetlands classified as both palustrine forested and palustrine emergent. A large palustrine wetland area of approximately 200 acres occurs in the northeastern portion of the site where the Luckiamute River and Soap Creek intersect (USDI 1975, 1980).

The cantonment area was reportedly constructed on a former wetland. Approximately 40 acres of this area has been redeveloped with much success by the E.E. Wilson Wildlife Area.

3.2.3 Surface Water Quality

3.2.3.1 *Coffin Butte Landfill*

Soap Creek surface water near Coffin Butte Landfill is sampled quarterly at one upstream and one downstream location. Surface water quality in Soap Creek does not demonstrate any landfill impacts at the downstream location, as indicated by statistical averages calculated by EMCON (EMCON 1995a). Methyl ethyl ketone (MEK) and acetone were detected in surface water in an unnamed tributary that drains the field south of cells 1 and 1A to Soap Creek. This field was irrigated with leachate on a temporary basis during the summer of 1993. The sampling locations were near a drain tile for the field. No impacts were detected in subsequent monitoring of the drain tile outflow during the following rainy season in December 1993 and March 1994 (EMCON 1995a).

3.2.3.2 *Adair Village Wastewater*

In 1993, ODEQ evaluated the surface water in Bowers Slough in relation to the Adair Village wastewater treatment facility discharge. The results indicated poor dilution of effluent in the slough, "making the water quality downstream poorer than upstream" (ODEQ 1993a). Adair Village is currently upgrading its wastewater treatment facility to discharge directly into the Willamette River. ODEQ evaluated the discharge into the Willamette River and believes that there will be "no measurable impact since the effluent will receive adequate dilution and mixing" (ODEQ 1993b).

The small pond on the former mill property was previously tested for possible contamination. No detections were present. No other surface water is known to be impacted by activities at the Camp Adair site.

3.3 SOIL PATHWAY

3.3.1 Description of Soils

The soils vary greatly throughout the Camp Adair site. Generally, the soils throughout the cantonment area and the east portion of the site are dominated by deep, well-drained to poorly drained soils of the Willamette Valley Terraces. The surface soils within the cantonment area are of the Woodburn-Willamette association, which are moderately well-drained and well-drained silt loams. The surface soils along most of the western portion of the site include the Dixonville-Philomath association and the Price-Ritner association, which are classified as areas dominated by moderate to deep well-drained silty clay loams and well-drained silty clays. The area along Soap Creek is classified as a Waldo-Bashaw association, which is poorly drained silty clay loams and clays (USDA 1975).

3.3.2 Soil Receptors

An estimated 1,295 people reside on the Camp Adair site. Of this total, 595 people reside within Adair Village. The majority of the people who reside on the site own multi-acre farms or timber harvest areas. No residences are known to exist within the state and federal parks of Paul Dunn State Forest, McDonald State Forest, and Peavy Arboretum. Residents within 4 miles of the site boundaries number 3,819. Both the Albany and Corvallis populations are located approximately 5 miles from the boundaries of the site. Residential populations identified within a 4-mile radius of the site boundaries are assumed as shown in Table 3-3.

Coffin Butte Landfill and the wastewater treatment facility were observed as the only areas from which the public was restricted by secure fencing. Approximately one-third of the Camp Adair site is estimated to be designated as public recreational land (URS 1995).

Table 3-3
Residential Populations Within 4 Miles of the Site Boundaries

Distance From Site (Miles)	Residential Population
On Site	1,295
0 to 0.125	70
0.125 to 0.25	77
0.25 to 0.5	144
0.5 to 1	291
1 to 2	620
2 to 3	669
3 to 4	653
Total Population	3,819

Source: OWRD 1995; USDC 1990; URS 1995

3.4 AIR PATHWAY

3.4.1 Regional Characteristics

The Camp Adair site contains mostly rural undeveloped lands. The climate in the area is as diversified as the topography. The Coast Range exerts a major influence on the climate of the Camp Adair Area. The annual normal precipitation for the area ranges from nearly 40 inches along the valley floor to more than 110 inches at higher elevations in the Coast Range. The primary months for precipitation are from November through March.

3.4.2 Air Receptors

The residential population within 4 miles of the site is detailed in Table 3-3. The closest resident is located on site at Camp Adair.

The E.E. Wilson Wildlife Area supports an abundant number of wildlife species. Sensitive species on the site include the western pond turtle and red-legged frog, bald eagle, trumpeter swan, and ringneck snakes. The bald eagle is on the list of federally threatened species, and the trumpeter swan is listed as a game bird.

Bird species reported to nest locally at Camp Adair include the mallard duck, red-tail hawk, California quail, ring-necked pheasant, mourning dove, great-horned owl, short-eared owl, cliff swallow, scrub jay, common bushtit, American robin, common yellowthroat warbler, Brewer's blackbird, redwinged blackbird, American goldfinch, rufous-sided towhee, Savannah sparrow, dark-eyed junco, white-crowned sparrow, and song sparrow.

Approximately 2,000 acres of wetlands exist on site (discussed in Section 3.2.2).

4.0 SAMPLING PROGRAM

In order to establish if military operations at Camp Adair had any impact on the surface water bodies running across it, URS, in conjunction with the EPA Region 10, developed a field sampling plan. The field sampling plan focused on four creeks that traverse the area where ordnance was used. Sediment samples were collected from upstream, on site, and downstream of the ordnance use area.

4.1 SAMPLE TYPES, NUMBERS, LOCATIONS, AND RATIONALE

Samples collected at the Camp Adair site are summarized in Table 4-1 and shown on Figure 4-1. The collection methods are described in Section 4.2.

4.2 SAMPLING METHODS

The media-specific sampling procedures were consistent with methodologies described in the *Technical Standard Operating Procedures (TSOP) for ARCS* (URS 1992b) contract activity, and the EPA publication *A Compendium of Superfund Field Operations Methods* (EPA 1987). All sampling equipment was decontaminated prior to and following use in accordance with TSOP 3.7.

All sample containers were clearly labeled with the EPA sample number, date, time, type of sample, and sampling personnel (TSOP 2.3, 2.4, and 2.5). Additionally, EPA sample tags were taped to the sample bottles and the bottle lids were individually custody sealed. After the samples were collected, the containers were placed in cooled ice-chests, which were maintained at approximately 4°C, and shipped to an analytical laboratory. Chain-of-custody forms were filled out and placed in the chests with the samples. The ice-chests were then sealed for shipment with duct tape and custody seals. An accurate log of the sampling event and other information pertinent to the sampling was recorded in the field logbook. Additional sample tracking was completed through the use of ARCS sample logs as defined in TSOP 2.6 (URS 1990b).

4.2.1 Sediment Samples (TSOP 5.4)

To assess whether past site practices in the weapons training areas have impacted on-site and downgradient surface water quality, 21 sediment samples were collected, including

Table 4-1
Camp Adair Sediment Sampling Program

Matrix	Sample Number	Location	Rationale	Analytes to be Tested	Date and Time Collected
Sediment	CA01	Upgradient area of Soap Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 14:26
	CA02	Upgradient area of Staats Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 15:25
	CA03	Upgradient area of Berry Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 10:45
	CA04	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:02
	CA05 ^a	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:47
	CA06	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 16:27
	CA07	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 17:20
	CA08	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 11:10
	CA09	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 18:04
	CA10	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 12:00
	CA11	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	Not collected
	CA12 ^a	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 14:00

Table 4-1 (Continued)
Camp Adair Sediment Sampling Program

Matrix	Sample Number	Location	Rationale	Analytes to be Tested	Date and Time Collected
Sediment (cont.)	CA13	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 14:45
	CA14	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 11:45
	CA15	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 12:50
	CA16	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 12:30
	CA17 ^a	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 14:26
	CA18	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:14
	CA19	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:45
	CA20	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	Not collected
	CA21	Duplicate of sample CA05	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:56
	CA22	Duplicate of sample CA18	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:30
	CA23	Upgradient area of Peterson Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 13:00

Table 4-1 (Continued)
Camp Adair Sediment Sampling Program

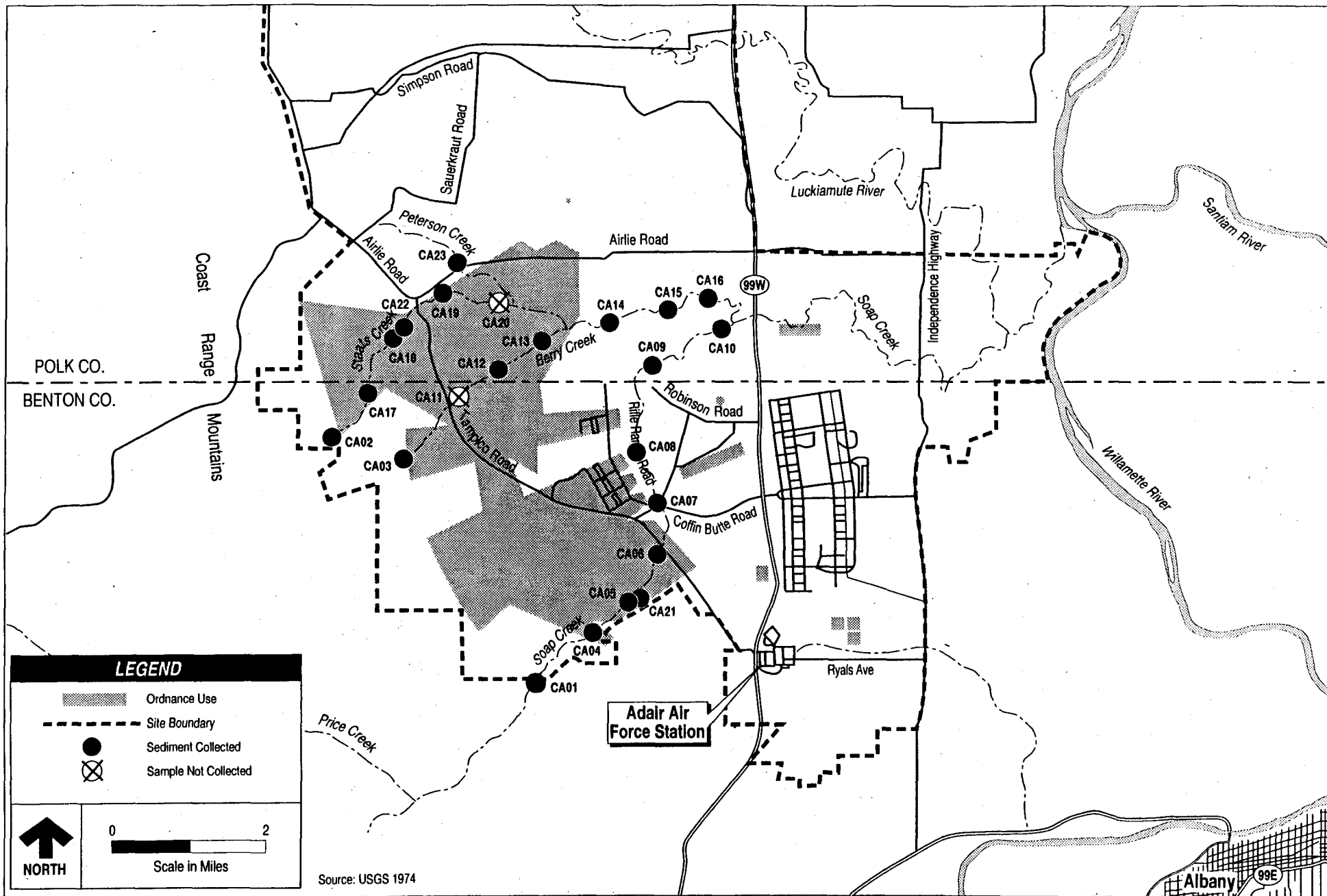
Matrix	Sample Number	Location	Rationale	Analytes to be Tested	Date and Time Collected
Water	CA24	Equipment rinsate	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 18:10
	CA25	Equipment rinsate	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:48
	CA26	Trip blank	Quality control	VOAs	4/9/96 21:33
	CA27	Trip blank	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 20:30
	CA28	Trip blank	Quality control	VOAs	4/11/96 16:30

*Samples intended as matrix spike/matrix spike duplicate (MS/MSD) samples

Notes:

VOAs Volatile organic analytes

SVs Semivolatile organic analytes



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Figure 4-1
Sample Location Map.

Camp Adair
Corvallis, Oregon
SCREENING SITE INSPECTION

field duplicates. The sediment samples were collected from sediment deposition areas in the creek and river locations. The sediment samples were collected by using a decontaminated spoon to remove the sediments from the creek. The sediment was then placed in a decontaminated stainless steel bowl. The sample portions to be submitted for analysis of volatile organic compounds (VOCs) were immediately transferred to the bottles. The remaining sediment was homogenized and then transferred into the other sample containers. Four of the sediment sample locations were selected to represent background conditions (CA01, CA02, CA03, and CA23).

Sediment samples identified in Table 4-1 were collected in the above detailed manner in order to satisfy the sampling objectives described in the Camp Adair field sampling plan (URS 1996a).

4.2.2 Quality Assurance Samples

One trip blank per ice chest was included with the environmental samples. This blank was used to assess the potential for cross-contamination during transport.

One equipment rinsate was collected after sample collection was completed and equipment was decontaminated. The rinsate was used to assess the thoroughness of the equipment decontamination process and the potential for cross-contamination during sample collection.

Two field duplicates were collected. The duplicates were used to assess the variability of sample collection methods. Three triple volume matrix spike/matrix spike duplicate samples were collected. The laboratory used this extra volume sample to perform spiked analyses.

4.3 EQUIPMENT DECONTAMINATION (TSOP 3.7)

To the greatest extent possible, disposable and/or dedicated personal protection and sampling equipment were used to avoid cross-contamination and to eliminate the generation of investigation-derived waste (IDW). Before sampling, all equipment (dedicated and nondedicated) was thoroughly cleaned with potable water and nonphosphate detergent, followed by successive rinses of potable water and reagent-grade distilled water. The equipment used for the sampling of VOCs was rinsed with reagent-grade methanol. Equipment rinsed with methanol was allowed to dry to eliminate methanol-contaminated IDW and then underwent a final rinse that involved rinsing twice with reagent-grade distilled water. The equipment was then air-dried.

Immediately after sampling, each piece of sampling equipment was brushed with either a bristle or steel wire brush to remove gross particulate contamination. Following this initial cleaning, the equipment was cleaned in accordance with the procedures described above. When all field work was completed, the decontaminated equipment was wrapped in aluminum foil, with the shiny side out, and transferred to the URS equipment storage facility.

4.4 INVESTIGATION-DERIVED WASTE

For the collection of sediment samples, only dedicated, disposable sampling equipment was used. This eliminated the generation of IDW.

5.0 SAMPLING RESULTS

The conditions used to define an "observed release" of a particular substance to any of the matrices sampled during the data evaluation process are summarized in Table 5-1 (EPA 1994). Discussions of data results for soils in this report use the term "significant" to classify concentrations of detected chemicals based on the criteria described in Table 5-1. The results discussed in the following sections are limited to those substances determined to be significant (as defined in Table 5-1).

Table 5-1
Significance Criteria for Chemical Analysis

Sample Measurement < Sample Quantitation Limit*	Sample Measurement ≥ Sample Quantitation Limit
No observed release is established; the result is not identified as significant	An observed release or significant result is established as follows: <ul style="list-style-type: none">• If the background concentration is not detected (or is less than the detection limit), an observed release or significant result is established when the sample measurement equals or exceeds the sample quantitation limit.• If the background concentration equals or exceeds the detection limit, an observed release or significant result is established when the sample measurement is three times or more above the background concentration.

*If the sample quantitation limit (SQL) cannot be established, determine whether there is an observed release as follows:

- If the sample analysis was performed under the EPA Contract Laboratory Program (CLP), use the EPA contract-required quantitation limit (CRQL) in place of the SQL.
- If the sample analysis was not performed under the EPA CLP, use the detection limit (DL) in place of the SQL.

5.1 CAMP ADAIR SEDIMENT RESULTS

Samples collected during this investigation were analyzed for volatile and semivolatile organic compounds and for ordnance compounds as described in the field sampling plan (URS 1996). The laboratory data results and data validation reports are included in Appendix E. Any sediment data results that satisfy the criteria listed in Table 5-1

(described as significant) are highlighted in Tables 5-2, 5-3, 5-4, and 5-5. Quality assurance/quality control (QA/QC) sample results are discussed in Section 5.2.

5.1.1 Sample Results for Volatile Organic Compounds

No VOCs were detected in any of the environmental sediment samples collected for this SSI. The only VOCs that were detected were laboratory contaminants in the QA/QC samples. These results are discussed in Section 5.2.

5.1.2 Sample Results for Semivolatile Organic Compounds

Bis(2-ethylhexyl)phthalate was the only semivolatile organic compound (SVOC) detected during this SSI. This chemical is most likely a laboratory artifact and not actually present in the creek sediments. Therefore, it is not significant. Table 5-2 presents the samples that contained this SVOC.

5.1.3 Sample Results for Inorganic Compounds

5.1.3.1 Soap Creek

Analysis of Soap Creek sediments revealed the presence of the following six analytes at concentrations at least three times greater than concentrations in the background Soap Creek sediment sample (CA01) (Table 5-3): arsenic, barium, beryllium, cobalt, lead, and manganese. Of these analytes, lead was the most frequently detected and was found in seven of the eight on-site sediment sample locations in concentrations ranging to 4.2 mg/kg (in sample CA10). Arsenic was detected in sample CA08 at 4.9 mg/kg and in sample CA10 at 6.8 mg/kg. Sample CA10, which represented the sample collection location closest to Highway 99W, also contained all the other analytes tested for, except selenium. It is likely that the sample results from CA10 reflect the impact from traffic on Highway 99W. Analytes with the highest concentrations in CA10 included barium at 318 mg/kg, beryllium at 1.1 mg/kg, cobalt at 184 mg/kg, and manganese at 5,740 mg/kg.

The results reported in sample CA10 are not attributable to activities conducted at Camp Adair due to the influence from traffic on Highway 99W. Therefore, only two analytes (arsenic and lead) were reported in Soap Creek at concentrations significantly above background. However, the arsenic and lead values reported in the Soap Creek background sample do not correlate with the background values reported for the other three creeks. Arsenic was reported in Soap Creek at a background concentration of 0.99 mg/kg and the other creeks reported 3.6 mg/kg to 5.9 mg/kg arsenic. Lead was reported in Soap Creek at a background concentration of 0.41 mg/kg and the other

Table 5-2
Semivolatile Organic Compounds in Sediments

Analyte	Background Peterson Creek Sediment CA23 (µg/kg)	Background Berry Creek Sediments CA03 (µg/kg)	Berry Creek Sediments CA12 (µg/kg)	Berry Creek Sediments CA13 (µg/kg)	Berry Creek Sediments CA14 (µg/kg)	Berry Creek Sediments CA15 (µg/kg)	Berry Creek Sediments CA16 (µg/kg)
bis(2-Ethylhexyl)phthalate	56J	85 J	80 J	92 J	97 J	88 J	56 J

Analyte	Background Soap Creek Sediments CA01 (µg/kg)	Soap Creek Sediments CA04 (µg/kg)	Soap Creek Sediments CA05 (µg/kg)	Soap Creek Sediments CA06 (µg/kg)	Soap Creek Sediments CA07 (µg/kg)	Soap Creek Sediments CA08 (µg/kg)	Soap Creek Sediments CA09 (µg/kg)	Soap Creek Sediments CA10 (µg/kg)	Soap Creek Sediments CA21 (Duplicate of CA05) (µg/kg)
bis(2-Ethylhexyl)phthalate	51 J	590 U	630 U	590 U	540 U	530 U	530 U	NA	72 J

Analyte	Background Staats Creek Sediments CA02 (µg/kg)	Staats Creek Sediments CA17 (µg/kg)	Staats Creek Sediments CA18 (µg/kg)	Staats Creek Sediments CA19 (µg/kg)	Staats Creek Sediments CA22 (Duplicate of CA18) (µg/kg)
bis(2-Ethylhexyl)phthalate	940 U	71 J	700 U	620 U	100 J

Notes:

- J Value is an estimate
 µg/kg Micrograms per kilogram
 NA Not analyzed
 U Sample was not detected; value shown is the quantitation limit

Table 5-3
Inorganics in Soap Creek Sediments

Analyte	Background Soap Creek Sediments CA01 (mg/kg)	Soap Creek Sediments CA04 (mg/kg)	Soap Creek Sediments CA05 (mg/kg)	Soap Creek Sediments CA06 (mg/kg)	Soap Creek Sediments CA07 (mg/kg)	Soap Creek Sediments CA08 (mg/kg)	Soap Creek Sediments CA09 (mg/kg)	Soap Creek Sediments CA10 (mg/kg)	Soap Creek Sediments CA21 (Duplicate of CA05) (mg/kg)
Antimony	7.5 UJ	12.7 J	11.6 J	9.3 J	13.6 J	8.8 UJ	9.6 J	9.4 UJ	11.5 J
Arsenic	0.99	0.89 U	2.1	2.7	1.9	4.9	2.7	6.8 J	1.5
Barium	93.4	132	143	142	154	247	161	318	134
Beryllium	0.52 U	0.67 U	0.84 U	0.61 U	0.90 U	0.93 U	0.83 U	1.1	1.1 U
Chromium	126	171	203	94.8	184	151	145	142	207
Cobalt	58.9	92.1	92.7	69.2	91.9	116	80.8	184	90.2
Copper	76.2	82.1	106	69.2	94.7	91.1	73.6	84.2	118
Lead	0.41	1.0	1.5	2.7	2.3	2.7	2.3	4.2	1.5
Manganese	1,520	2,150	2,290	2,100	2,370	3,300	2,190	5,740	2,190
Nickel	73.4	76.6	79.6	50.0	74.8	84.5	62.7	81.4	82.8
Selenium	0.54 J	0.31	0.39 U	0.85 J	1.3	1.2	0.71 J	2.1	1.2 J
Vanadium	192	275	327	182	311	277	276	348	340

Notes:

Bolded values represent significant concentrations

J Value is an estimate

U Sample was not detected; value shown is the quantitation limit

Table 5-5
Inorganics in Berry Creek Sediments

Analyte	Background Peterson Creek Sediments CA23 (mg/kg)	Background Berry Creek Sediments CA03 (mg/kg)	Berry Creek Sediments CA12 (mg/kg)	Berry Creek Sediments CA13 (mg/kg)	Berry Creek Sediments CA14 (mg/kg)	Berry Creek Sediments CA15 (mg/kg)	Berry Creek Sediments CA16 (mg/kg)
Antimony	8.6 U	10.3 UJ	9.6 J	11.1 UJ	10.0 UJ	10.5 J	8.0 UJ
Arsenic	5.9	3.6	12.0 J	1.9 J	11.5 J	18.0 J	7.1
Barium	95.3	283	223	239	239	172	214
Beryllium	0.68 U	1.2	1.2 U	1.4	1.4 U	0.89 U	0.76 U
Cadmium	1.1	1.3 U	1.2 U	1.4 U	1.2 U	1.0 U	0.98 U
Chromium	17.2	126	104	109	112	148	36.4
Cobalt	17	73.6	79.8	79.0	84.0	91.8	29.9
Copper	14.7	99.6	116	104	104	81.3	29.8
Lead	7.9	3.7	6.4 J	8.6	16.5 J	4.0 J	10.3
Manganese	710	2,640	2,460	2,370	2,440	2,460	1,970
Mercury	0.16	0.18 U	0.17 U	0.20 U	0.18 UJ	0.22 J	0.14 U
Nickel	5.4	54.1	55.7	49.8	50.5	70.9	27.8
Selenium	0.31	2.6	1.4 J	1.2 J	1.1 J	1.3 J	0.29 J
Thallium	0.59	0.70 U	0.65 U	0.76 U	0.68 U	0.58 U	0.55 U
Vanadium	57.9	282	272	298	306	293	96.9

Notes:

J Value is an estimate

U Sample was not detected; value shown is the quantitation limit

Table 5-4
Inorganics in Staats Creek Sediments

Analyte	Background Staats Creek Sediments CA02 (mg/kg)	Staats Creek Sediments CA17 (mg/kg)	Staats Creek Sediments CA18 (mg/kg)	Staats Creek Sediments CA19 (mg/kg)	Staats Creek Sediments CA22 (Duplicate of CA18) (mg/kg)
Arsenic	5.6	4.9	7.5	6.0	6.0
Barium	277	425	313	246	308
Beryllium	1.3	1.6	1.2 U	0.99 U	1.2
Chromium	64.0	65.1	47.8	36.9	46.4
Cobalt	45.8	46.6	20.3	20.4	21.4
Copper	81.5	68.7	43.6	37.9	44.2
Iron	59,700	83,100	41,600	34,700	42,200
Lead	6.0	17.9	23.7	11.0	13.1
Manganese	1880	2340	721	1220	974
Mercury	0.19 U	0.19 U	0.20 U	0.20 U	0.24
Nickel	40.3	40.8	26.5	25.0	25.65
Selenium	1.7	1.0 J	0.85 J	0.69	0.87 J
Vanadium	188	223	139	95.4	136

Notes:

Bolded values represent significant concentrations

J Value is an estimate

U Sample was not detected; value shown is the quantitation limit

Table 5-6
Quality Assurance/Quality Control Samples

Analyte	April 9, 1996 Trip Blank CA26 (µg/kg)	April 9, 1996 Rinsate CA24 (µg/kg)	April 10, 1996 Rinsate CA25 (µg/kg)	April 10, 1996 Trip Blank CA27 (µg/kg)	April 11, 1996 Trip Blank CA28 (µg/kg)
Chloroform	2 J	2 J	2 J	2 J	2 J

Notes:

Bolded values represent significant concentrations

J Value is an estimate

creeks reported lead at 3.7 mg/kg to 7.9 mg/kg. A more realistic background value for Soap Creek would be the lowest result for the other creeks: arsenic at 3.6 mg/kg and lead at 3.7 mg/kg. Based on comparison of these background values to the Soap Creek arsenic and lead results, no inorganic analytes were reported in Soap Creek at significant concentrations above background.

5.1.3.2 *Staats Creek*

Lead and mercury were detected at significant concentrations in Staats Creek sediment. Sample CA18, collected where shown on Figure 4-1, contained 23.7 mg/kg lead. This result may be an anomaly due to the value of 13.1 mg/kg lead reported in the collocated duplicate sample CA22. Sample CA22, duplicate of CA18, contained 0.24 mg/kg mercury. The results of the sampling program for Staats Creek sediment are shown in Table 5-4.

5.1.3.3 *Berry Creek*

No inorganic analytes were detected at significant concentrations in Berry Creek sediment. The results of the sampling program for Berry Creek sediment are shown in Table 5-5.

5.1.4 Sample Results for Ordnance Compounds

No ordnance compounds were detected for this sampling event. Refer to Appendix E for the analytical results.

5.2 QUALITY ASSURANCE/CONTROL SAMPLES

Two equipment rinsate samples (CA24 and CA25) were collected for this SSI by using high-purity, low-conductivity water (HPLC). The VOC contaminant chloroform was detected in CA25 at an estimated concentration of 2 µg/kg. (See Table 5-6.) However, chloroform was not reported in any on-site samples; therefore, this has not affected the data.

Three trip blanks were collected for this SSI. Although the samples were filled directly from new HPLC bottles, chloroform was detected in all of the samples at an estimated concentration of 2 µg/kg. The trip blanks were produced on separate days. Chloroform was not detected in any of the environmental samples or laboratory method blanks.

Duplicate samples (CA21 and CA22) were collected for this site investigation to evaluate the environmental variability at specific sample locations and the consistency of sample collection. No VOCs or SVOCs were detected in either the duplicates or the environmental samples for these analyses. The results from analyses for ordnance and inorganic compounds generally showed detection of similar compounds with relatively similar chemical concentrations. Sample inhomogeneity may account for the occurrence of elevated nickel in the two duplicates.

Eleven method blanks were analyzed for VOCs. Methylene chloride (a common laboratory contaminant) was detected in all of the method blanks. Acetone, another common laboratory contaminant, was detected in 7 out of the 10 method blanks. One method blank also contained 1,1,2-trichloroethane, bromoform, 1,1,2,2-tetrachlorethane, styrene, and xylene.

Twelve beryllium results and two manganese water results were qualified U due to the presence of these elements in laboratory blanks for metals.

No target compounds were detected in the four laboratory method blanks analyzed for ordnance compounds.

5.3 SUMMARY AND CONCLUSION

No volatile organic compounds or ordnance compounds were detected in the surface water sediments of the Camp Adair area. The only significant detections for the Camp Adair Site Investigation were inorganics. Most of the elements were detected from Soap Creek, specifically from the sample furthest downstream (CA10), which likely reflects impacts from Highway 99W traffic. Although lead was detected at significant concentrations in seven of eight Soap Creek samples (Table 5-1), the concentrations, which range from 1.0 mg/kg to 4.2 mg/kg, do not appear to be out of the normal range for the area due to the abnormally low background value for Soap Creek. The same is true for the other elements which were detected at significant concentrations. The background concentration for lead in Soap Creek was 0.41 mg/kg. However, the background concentration for lead in Staats Creek and Berry Creek was 6 mg/kg and 7.9 mg/kg, respectively. Staats Creek had the highest lead concentration at 23.7 mg/kg (CA18). However, this appears to be an anomaly, as the duplicate of this sample (CA22) had a lead concentration of 13.1 mg/kg (CA18). The USGS has conducted sampling of stream sediments in the Willamette River Valley to determine background concentrations for lead. The background concentrations for Fir Creek, a pristine area, in the Bull Run Watershed is 6.0 mg/kg. By comparison, the most contaminated creeks in

the Willamette Valley have lead concentrations of 95 mg/kg (Amazon Creek) and 140 mg/kg (A-3 channel—a tributary of Amazon Creek) (USGS 1996). These concentrations are 4 to 6 times higher than the maximum lead concentration reported in the Camp Adair results (CA18).

Based on analytical results for this site investigation, historical Department of Defense operations at Camp Adair apparently have not adversely affected the sediment chemistry of Soap, Berry, or Staats creeks.

6.0 REFERENCES

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APPENDIX A
SAMPLING PHOTODOCUMENTATION—APRIL 9, 10, AND 11, 1996

**URS
CONSULTANTS
ARCS
Photograph Log**

DCL # 41627650.41

Project Number 4162760.41	Project/Site Name Camp Adair	Photographer: Jeff Kesner		
Camera Type Canon 35 mm	Film Type/Speed Fuji	Roll Number 1	Date: April 9, 10, 11, 1996	
Frame	Date	Time	Orientation	Subject
1	4/9/96	14:20	Down	CA01 - Soap Creek.
2	4/9/96	15:13	Down	CA04 - Soap Creek.
3	4/9/96	15:46	Down	CA05, CA21 - Soap Creek.
4	4/9/96	16:25	Down	CA06 - Soap Creek.
5	4/9/96	17:24	Down	CA07 - Soap Creek.
6	4/9/96	17:31	E	Coffin Butte Landfill relative to CA07.
7	4/9/96	17:34	N	Soap Creek typical topography, fauna at CA07.
8	4/9/96	18:07	N	CA09.
9	4/10/96	11:12	Down	CA08 - Soap Creek.
10	4/10/96	12:15	Down	CA10 - Soap Creek
11	4/10/96	12:39	E	Berry Creek Bed Highway 99W in background.
12	4/10/96	12:39	Down	CA16.
13	4/10/96	13:09	Down	CA23.
14	4/10/96	13:44	E	CA11.
15	4/10/96	14:42	E	CA17.
16	4/10/96	15:25	E	CA02.
17	4/10/96	16:10	N	CA18.
18	4/10/96	16:50	E	CA19.
19	4/11/96	10:45	SW	CA03

Frame	Date	Time	Orientation	Subject
20	4/11/96	12:50	Down	CA15.
21	4/11/96	12:55	Down	Pool at CA15.
22	4/11/96	14:00	Down	CA12.
23	4/11/96	14:44	Down	CA13.
24	4/11/96	14:45	SW	Berry Creek at CA13
Comments:				



1
CA01 - Soap Creek.



2
CA04 - Soap Creek.



3

CA05, CA21 - Soap
Creek.

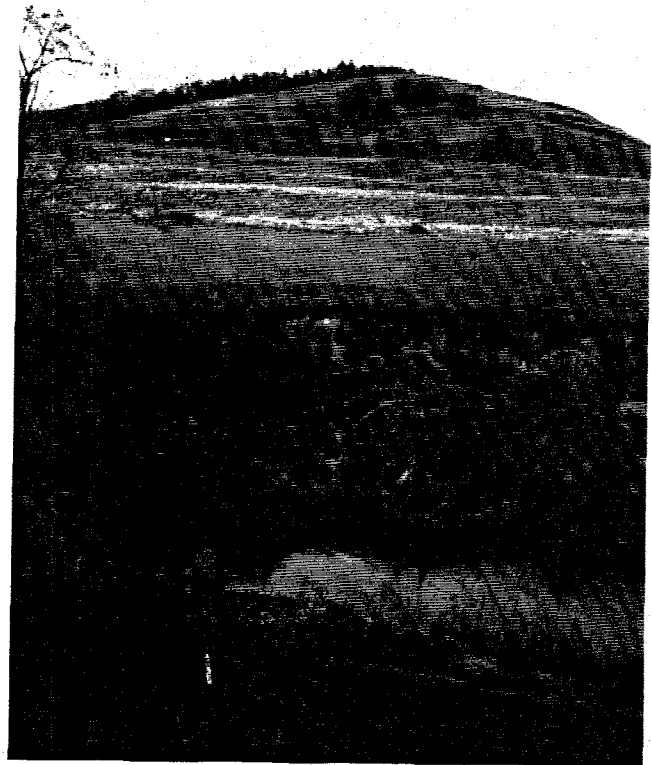


4

CA06 - Soap Creek.

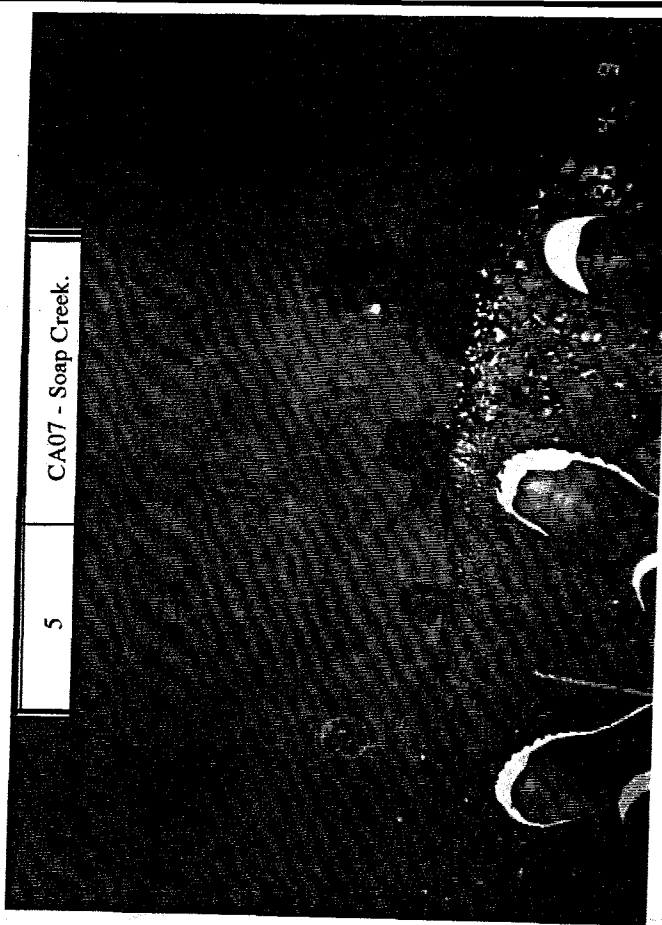
6

Coffin Butte Landfill
relative to CA07.



CA07 - Soap Creek.

5



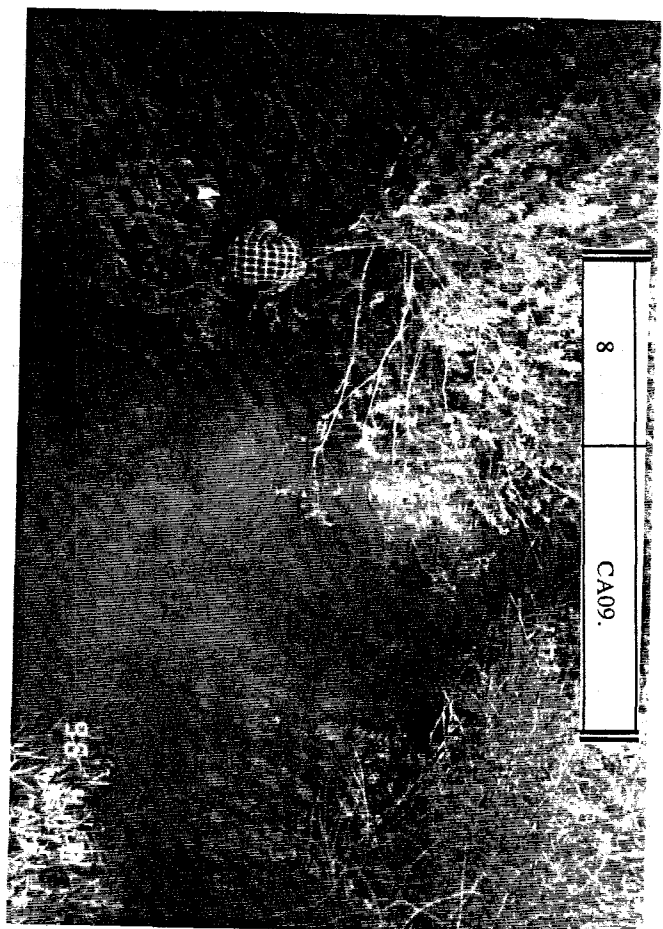
7

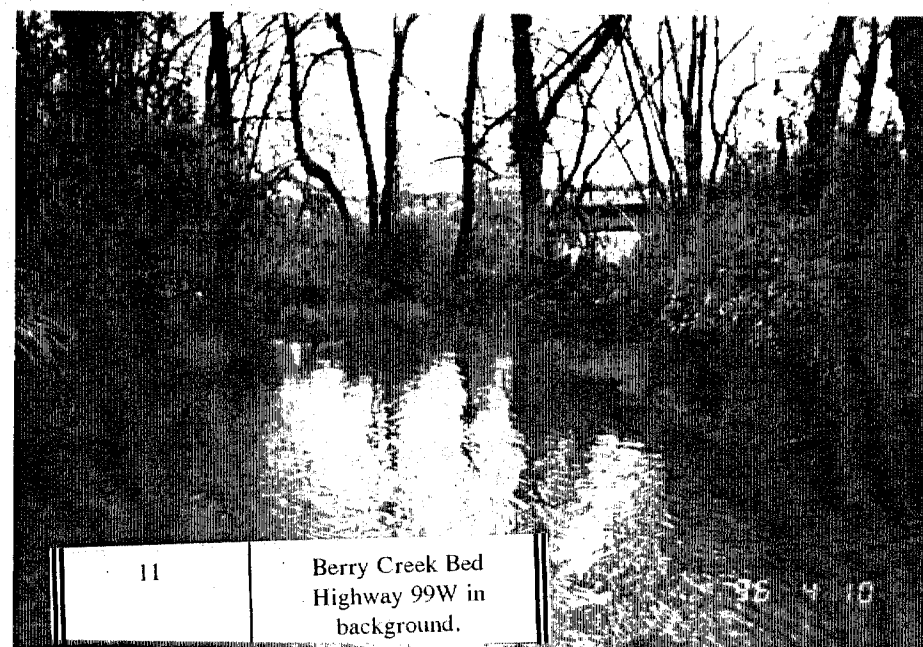
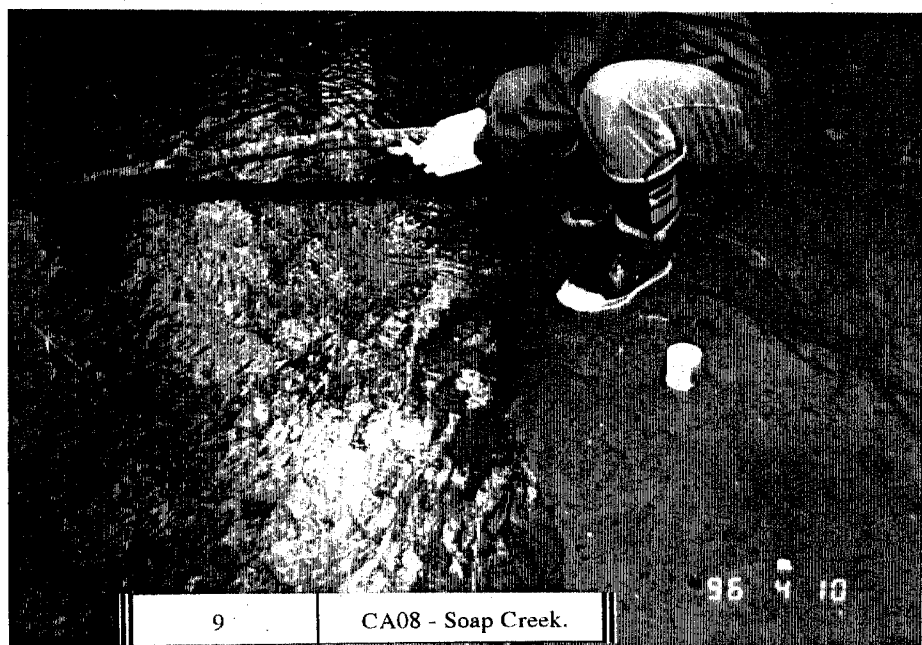
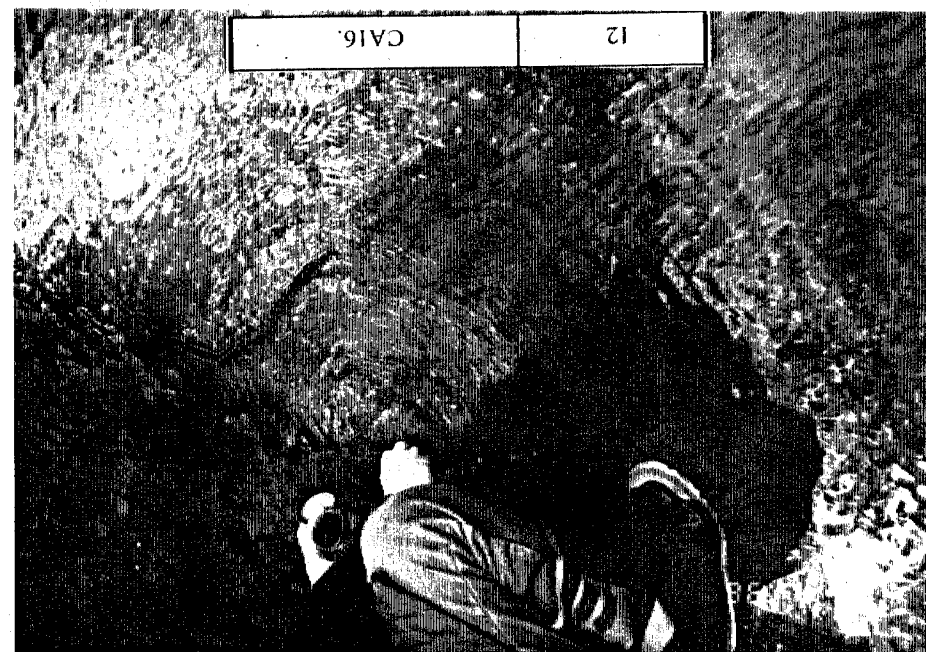
Soap Creek typical
topography, fauna at
CA07.

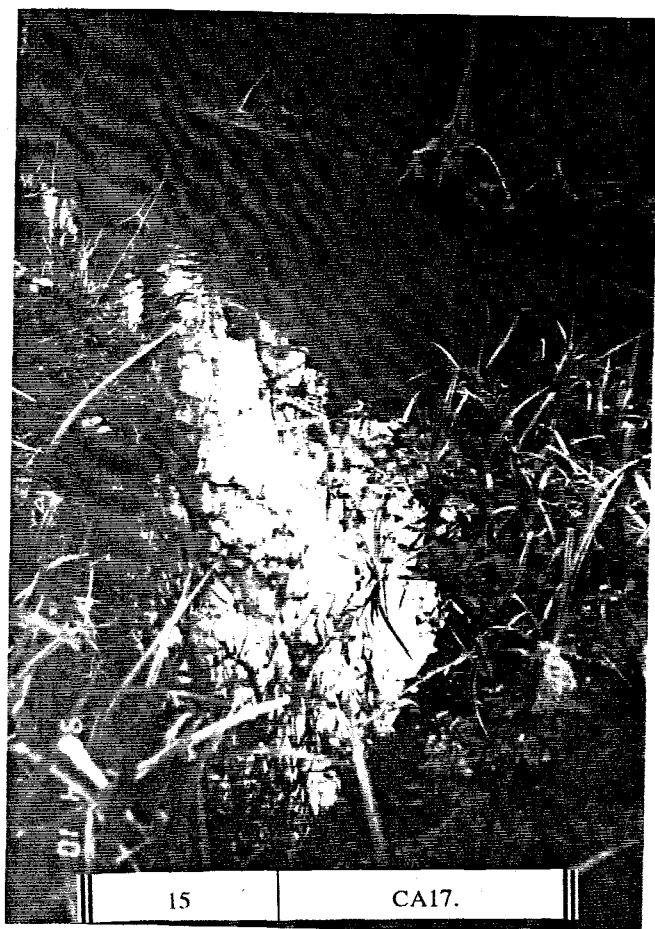
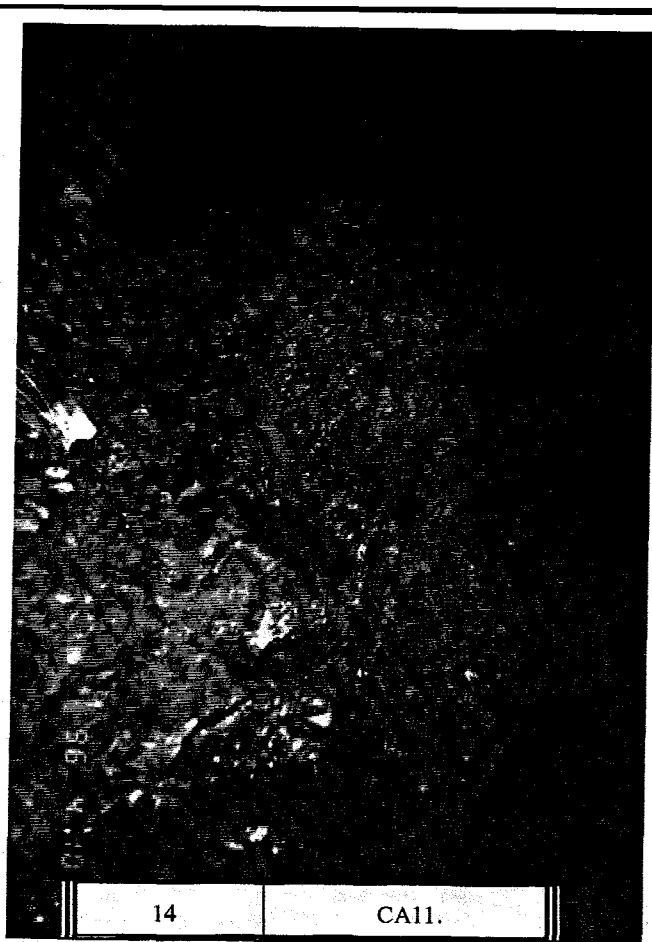
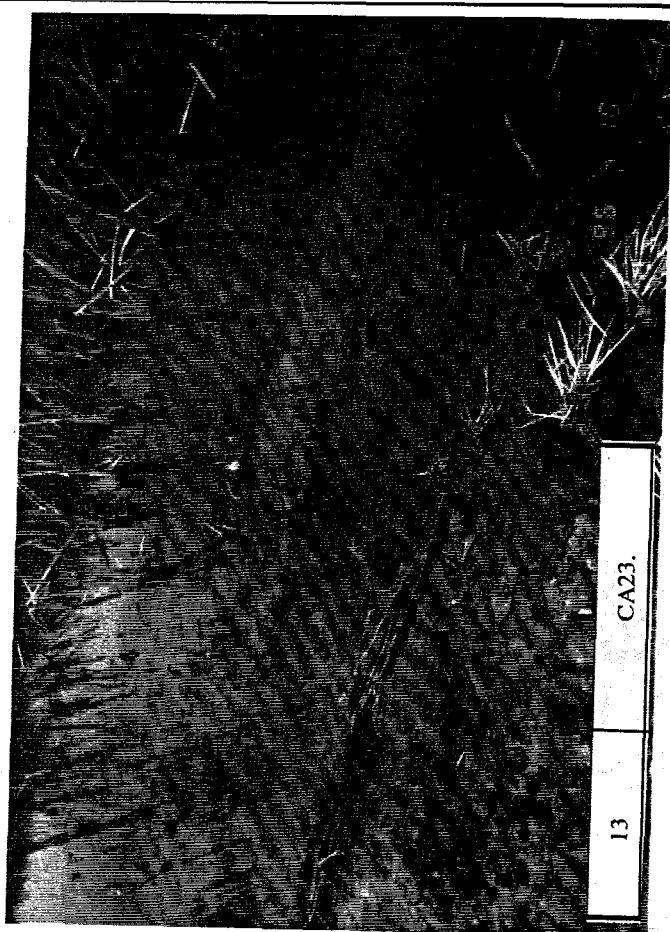


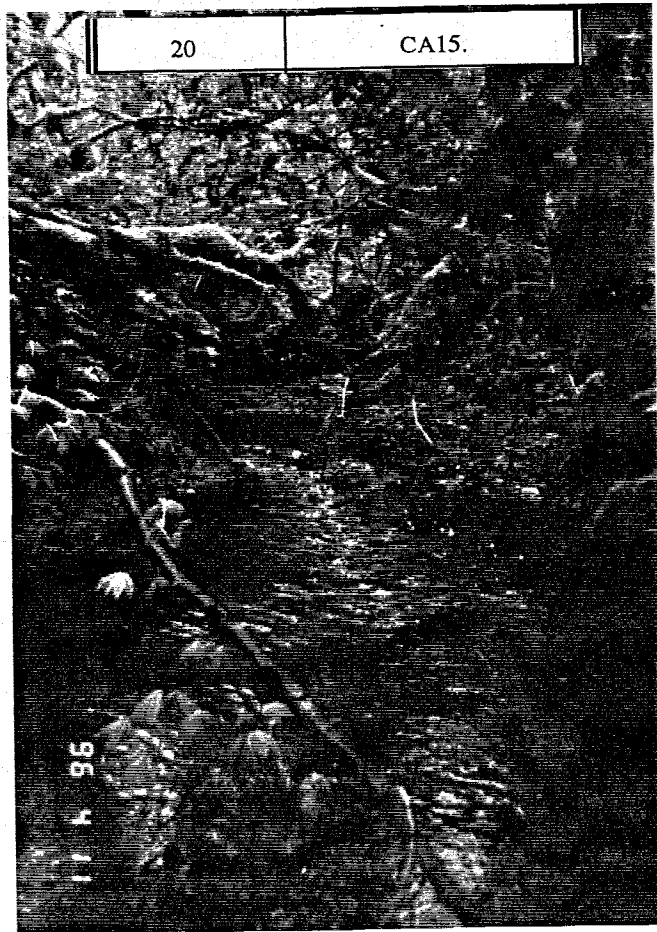
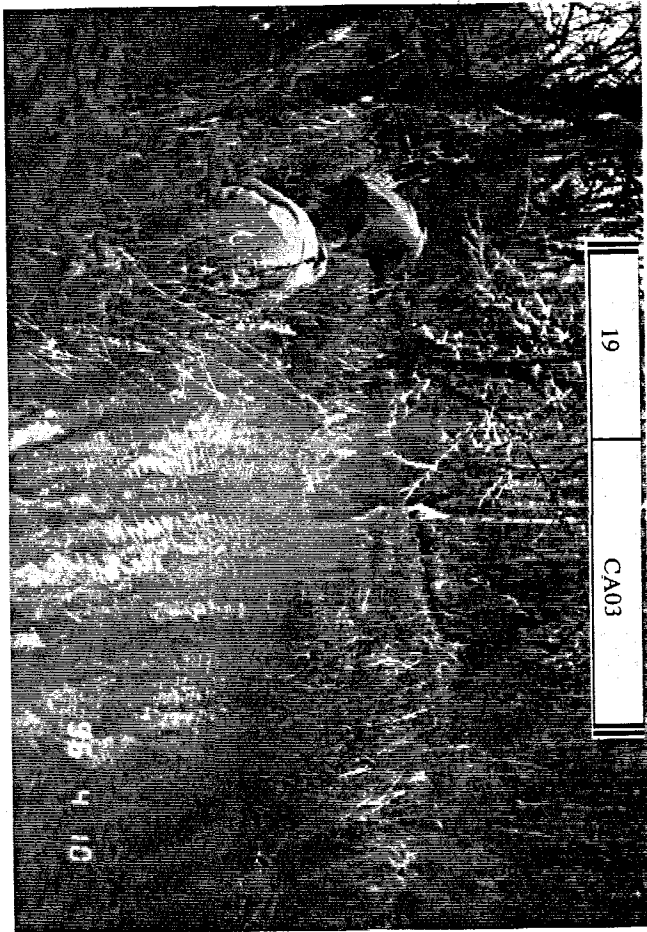
8

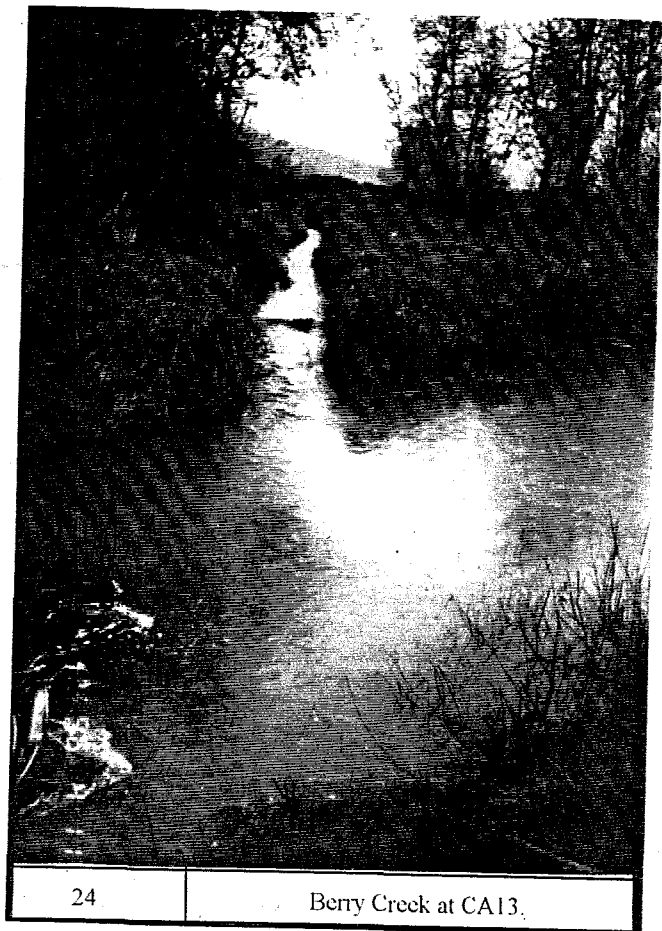
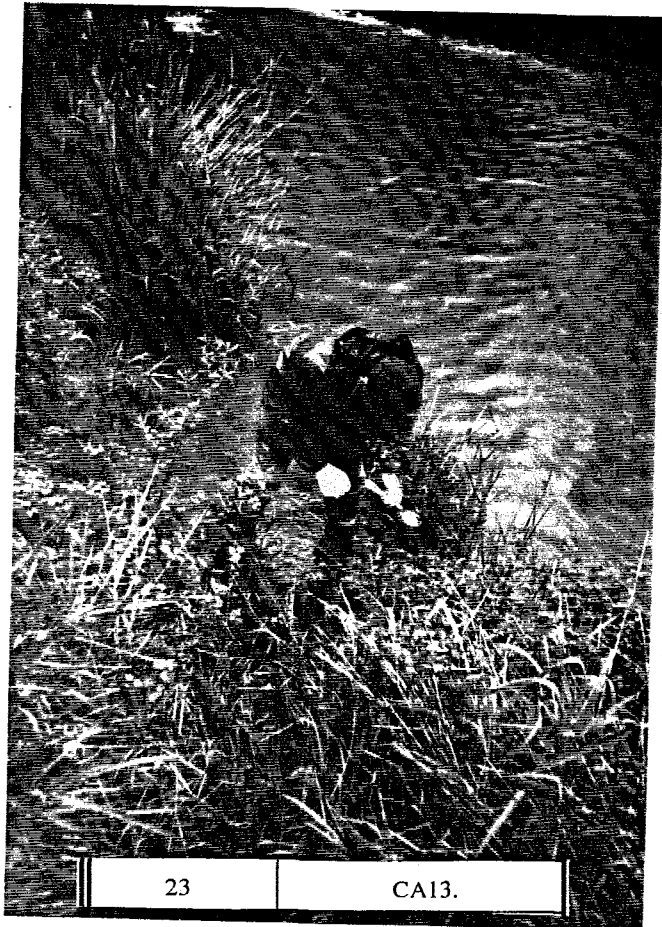
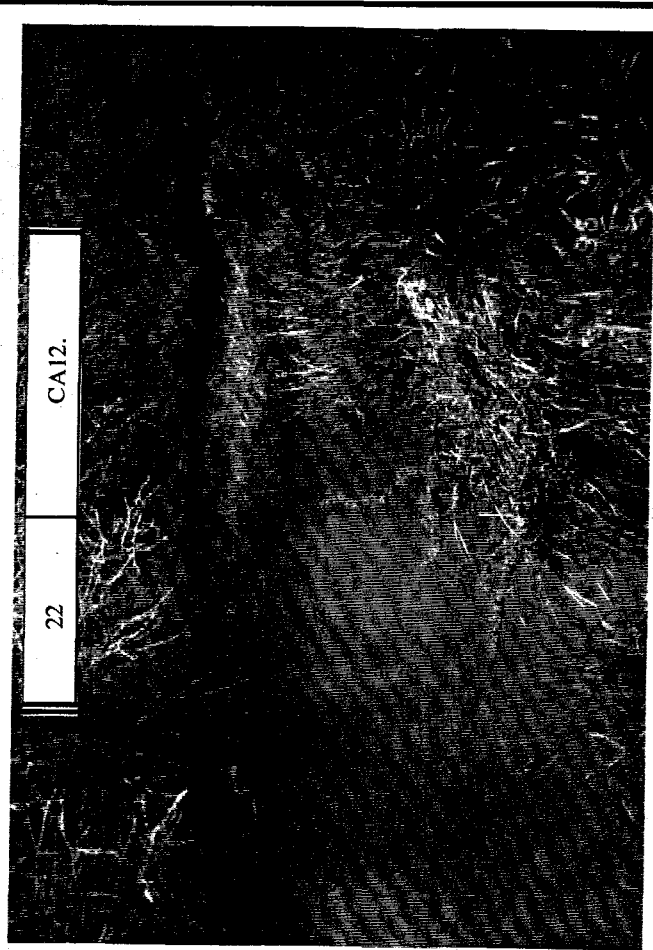
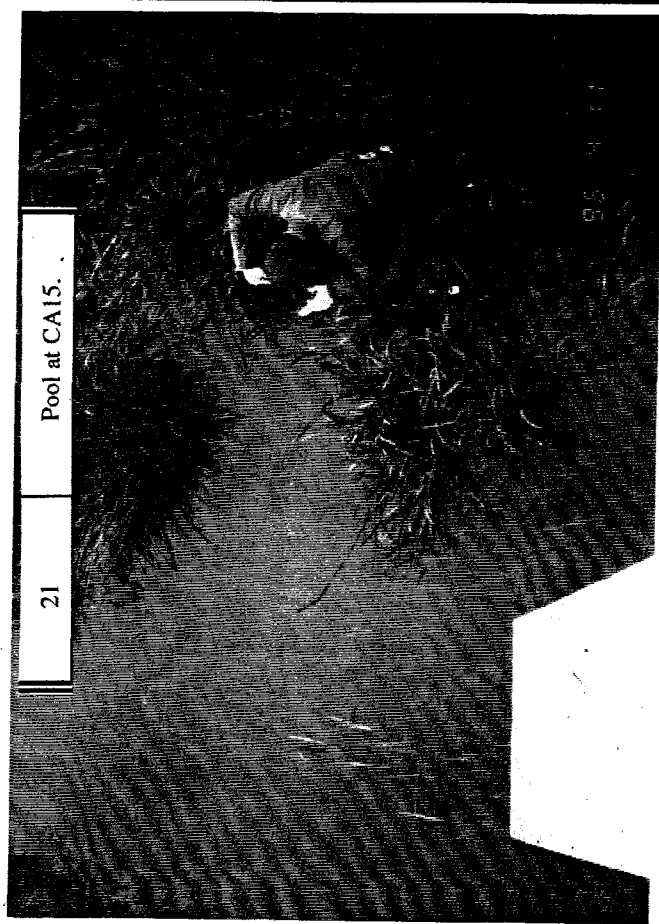
CA09.











APPENDIX B
NET PRECIPITATION CALCULATION

URS CONSULTANTS, INC.

Calculation for Net Precipitation

Date: 06/31/95 Individual entering data: Michelle Sortino
 Site: Camp Adair Temperature data in C or F: F
 Latitude: 44 38' 00" N Data in Temperature (D) or Evap. (E): D
 Longitude: 123 12' 00" W > Latitude (50,45,40,35,30,20,10,0): 45.00
 Data checked by: J. Keener
 Date calculation checked: 08/31/95

(Fill in only the shaded spaces)

Calculation performed according to HRS Final Rule

(40 CFR Part 300), Section 3.1.2.2 using the following formula:

Net Precipitation = Monthly Precipitation - Evapotranspiration (E)

$E(\text{Jan..Dec}) = 0.6 * F(\text{Jan..Dec}) [10T(\text{Jan..Dec})/I]^a$

Variables:

$E(\text{Jan..Dec})$ = Monthly potential evapotranspiration, if $E < 0$ then $E = 0$ is used

$F(\text{Jan..Dec})$ = Monthly latitude adjusting value

$T(\text{Jan..Dec})$ = Mean monthly Temperature (Centigrade)

$I = \text{Sum}[T(\text{Jan..Dec})/5] \wedge 1.514$

$a = 6.75 * (10 \wedge -7) * (I \wedge 3) - 7.71 * (10 \wedge -5) * (I \wedge 2) + 1.79 * (10 \wedge -2) * I + 0.49239$

Monthly Variables: Enter what is available

Month	Degree (C or F)	Precipitation	Evaporation
Jan	38.30	6.82	
Feb	42.80	5.04	
March	46.00	4.55	
April	49.30	2.56	
May	54.60	1.95	
June	60.90	1.23	
July	65.60	0.52	
Aug	66.20	0.87	
Sept	61.60	1.51	
Oct	53.00	3.11	
Nov	45.10	6.82	
Dec	39.80	7.72	

Calculated Variables

Variable T	Variable I
4.06	0.73
6.00	1.32
7.78	1.96
9.61	2.71
12.56	4.07
16.06	5.92
18.67	7.45
19.00	7.65
16.44	6.14
11.67	3.64
7.28	1.77
4.33	0.80

Difference Variables

Variable F	Variable E
0.80	0.44
0.81	0.69
1.02	1.16
1.13	1.64
1.26	2.52
1.29	3.35
1.31	4.04
1.21	3.81
1.04	2.78
0.94	1.70
0.79	0.84
0.75	0.44

Precip-Evap.	Positive P-E
6.38	6.38
4.35	4.35
3.39	3.39
0.92	0.92
-0.57	0.00
-2.12	0.00
-3.52	0.00
-2.94	0.00
-1.27	0.00
1.41	1.41
5.98	5.98
7.28	7.28

Average Annual Precipitation

42.70 inches

Total I

44.15

Variable a

7902.46

TOTAL

29.72

NET PRECIPITATION =

29.72 INCHES

APPENDIX C
WELL LOGS

94w-28
POLK
RECEIVE

JAN 10 1952
STATE ENGINEER
SALEM, OREG

GROUND WATER BRANCH
P. O. Box 3418, Portland 8, Oregon

In the Department of Agriculture Circular 540 entitled, "Drilling down and developing water wells for irrigation" you might find some helpful information. It can probably be obtained from your County Agent or from the Superintendent of Lands, **January 8, 1952**
Washington, D. C.

Mr. H. W. Fickel and Son

Independence, Oregon
and water conditions of any well you may drill.

Dear Sirs:

In regard to your January 7 letter asking for information on the ground water conditions in the Luckiamute River flood plain just north of Davidson Bridge, in sec. 28, T. 98., **Respectfully yours,**

The flood plain of the Willamette and the Luckiamute Rivers and the low terrace lands adjacent to the flood ~~plains~~ underlain by ~~bedrock~~ clay, sand and some gravel. ~~These alluvial beds~~ are almost 100 to 150 feet thick in the central parts of the Willamette Valley and taper out entirely at the edges of the plains of the tributary rivers. At the north edge of the Luckiamute flood plain where you are drilling, our general information indicates that the alluvium is mostly silt, and fine sand and is only 25 to 50 feet thick above bedrock.

The bedrock materials of the region underlie the river-laid alluvial deposits. The bedrock materials beneath your well site are believed to consist of a few feet of shale below which sandstone extends to many hundreds of feet.

As to the probable yield of a well penetrating these earth materials - the alluvial materials there are not highly productive and the sandstone bedrock in general does not yield large quantities of water.

In places where the earth formations yield water slowly, special well construction techniques are used. Large diameter wells, with or without gravel envelope, numerous small wells and other devices are practised to obtain as much water as possible from such fine-grained materials.

9/5W-10

GROUND WATER BRANCH
Box 3418 - 623 Post Office Building
Portland 8, Oregon

June 18, 1951

RECEIVED
JUN 19 1951
STATE ENGINEER
SALEM, OREGON

Mr. R. D. Davis
Route 2, Box 25
Monmouth, Oregon

Dear Mr. Davis:

In regard to your May 16 request for information on the ground-water data on a site at the northwest corner of $W\frac{1}{2}$ sec. 10, T. 9 S., R. 5 W. This agency collects ground-water information in Oregon in cooperation with the office of the State Engineer.

The tract of land you mention is underlaid by tuffaceous sandstones and siltstones of Upper Eocene age. These strata are generally poor formation in which to seek ground water as they are in general nonporous or but moderately porous. They were originally deposited under marine conditions and in many places what ground water does occur contains considerable dissolved mineral matter with some calcium chlorides.

However, in places, individual strata do afford small supplies of ground water of fair quality. The strata dip generally northeast at about 10 degrees from the horizontal so that beds penetrated beneath your place would be those outcropping at the surface a short distance to the southwest.

Since your needs are apparently only those necessary for household supply—5 to 10 gallons a minute sustained capacity is usually ample for one house—it may be that strata present there would afford that amount. If so, the existence of those small supplies are dependent on geological details not covered by the data we have on file. The static level of any ground water developed there would probably be 50 or so feet below the land surface level. Since the presence of fresh water in those beds is dependent upon a past history of natural flushing out of the salty water, the upper ground water will ordinarily be found lower in dissolved mineral matter.

If I were personally dependent upon constructing a household well there, I would consider the work as exploratory in nature, keep costs to a minimum, commensurate with good well construction, and wait until a well with satisfactory water was secured before basing other financial commitments on well water supply.

Sincerely yours,

RC cc:ls Mr. Stricklin

R. C. Newcomb, District Geologist

(USE ADDITIONAL SHEETS IF NECESSARY)

(1) OWNER: Ray Tarter
Name
Address Route 3 Box 43
Monmouth, Oregon

(2) LOCATION OF WELL:

County Dakota Owner's number, if any—

<u>1/4</u>	<u>1/4</u> Section	<u>T.</u>	<u>R.</u>	<u>W.M.</u>
Bearing and distance from section or subdivision corner				
<u>Two hundred feet East and</u> <u>sixty feet west on lot 10</u> <u>Block 1 of the Town of</u> <u>Wichita.</u>				

(3) TYPE OF WORK (check):
 New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
 If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
 Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐
 Cable ☒ Jetted ☐
 Dug ☐ Bored ☐

(6) CASING INSTALLED: Threaded ☐ Welded ☒

6" Diam. from 0 ft. to 40 ft. Gage 3/16"

" Diam. from ft. to ft. Gage

(7) PERFORATIONS: Perforated ☒ Yes ☐ No
Type of perforator used *Cutting torch*
SIZE of perforations *1/4* in. by *6* in.
..... perforations from ft. to ft.
..... perforations from ft. to ft.
10 perforations from *26* ft. to *34* ft.
..... perforations from ft. to ft.
..... perforations from ft. to ft.

(8) SCREENS: Well screen installed ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

..... Slot size Set from ft. to ft.

..... Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Was well gravel packed? ☒ Yes ☐ No Size of gravel: 1/4" crushed

Gravel placed from _____ ft. to _____ ft.

Was a surface seal provided? ☒ Yes ☐ No To what depth? 16" below

Material used in seal - concrete 2' below surf

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

(10) WATER LEVELS:

Static level	15 ft. below land surface	Date	4-11-61
Artesian pressure	lbs. per square inch	Date	

Log Accepted by: _____
[Signed] _____ Date _____, 19_____
(Owner)

(11) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after

" " "

" " "

Ballor test 400 gal./min. with 40 ft. drawdown after 1/2

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG: Diameter of well 6 in.
 Depth drilled 60 ft. Depth of completed well 66
 Formation: Describe by color, character, size of material and structure, show thickness of aquifers and the kind and nature of the material in a stratum penetrated, with at least one entry for each change of format

[illegible]

Work started Apr. 4 1954 Completed Apr. 8 19

(13) PUMP: *C.A. Smith - MW*
 Manufacturer's Name *C.A. Smith - MW*
 Type *Deep well jet - CS* H.P. *1*

Well Driller's Statement:
This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.

NAME APC Union
(Person, firm, or corporation) (Type or print)

Address 1111 1st St. S. E. Atlanta, Ga.

Driller's well number:

[Signed] _____
(Well Driller)

License No. 1-1 Date May 16 1919

(START CARD) # 11371

(9) LOCATION OF WELL by legal description

County Polk Latitude _____ Longitude _____

Township 10 S Nor S, Range 4 W E or _____

Section 10 _____ $\frac{1}{4}$ _____ $\frac{1}{4}$

Tax Lot 401 Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) _____

14701 Buena Vista Rd.-Albany

(10) STATIC WATER LEVEL:

13' ft. below land surface. Date 10-

(11) WATER BEARING ZONES:

Artesian pressure _____ lb. per square inch. Date _____

Depth at which water was first found 27'

From	To	Estimated Flow Rate
27'	40'	72 gpm

(12) WELL LOG:

Ground elevation _____

[illegible]

Date started 9-28-89 Completed 10-2-89

(unbonded). Water Well Constructor Certification:

I certify that the work I performed on the construction, and abandonment of this well is in compliance with Oregon well standards. Materials used and information reported above are true to my knowledge and belief.

Signed _____ WWC Number _____
Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or work performed on this well during the construction dates reported. The work performed during this time is in compliance with construction standards. This report is true to the best of my knowledge and belief.

believe. WWC Number
Signed Walter Wilson Date 10-12

☒ SECOND COPY - CONSTRUCTOR
 ☐ THIRD COPY - CUSTOMER

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6"	+14"	37'	.280	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			10"		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) 37' 10"

☒ Perforations Method Acetylene torch
☐ Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
27'	10"	35'	3/8"	36	6"	<input type="checkbox"/>	<input type="checkbox"/>
	10"	x12"				<input checked="" type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

☐ Pump ☒ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
72 gpm	1'		1 hr.

Temperature of water _____ Depth Artesian Flow Found _____

Was a water analysis done? ☐ Yes By whom _____

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____

Depth of strata: _____

(1) OWNER:

Name Hulen C. McCary
Address Star Rt. - Box 272
Mesa, Washington 99343

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:

6" Diam. from 0 ft. to 109 ft. Gage 250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☒ Yes ☐ No.

Type of perforator used Torch cut
Size of perforations 3/8 in. by 10 in.
8 perforations from 100 ft. to 107 ft.
8 perforations from 20 ft. to 30 ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is
lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.
" " " " " "

Bailer test 10 gal./min. with 35 ft. drawdown after 2 hrs.

Artesian flow g.p.m.

Temperature of water 52 Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Cement
Well sealed from land surface to 20 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 7 sacks
Number of sacks of bentonite used in well seal sacks
Brand name of bentonite

Number of pounds of bentonite per 100 gallons
ft water lbs./100 gals.

Is a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.

Any strata contain unusable water? ☐ Yes ☒ No

of water? depth of strata

of sealing strata off

Well gravel packed? ☒ Yes ☐ No Size of gravel:

placed from 18 ft. to 65 ft.

(10) LOCATION OF WELL:

County Benton Driller's well number 86774D
SE 1/4 SW 1/4 Section 21 T.10S R. 4W W.3
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 20
Static level 8-1/2 ft. below land surface. Date 7-25-74
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 120 ft. Depth of completed well 120

Formation: Describe color, texture, grain size and structure of material and show thickness and nature of each stratum and aquifer penetrated with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SW
Topsoil	0	3	
Clay, sandy, brown	3	15	8
Sand, brown-med. grain-water	15	18	
Clay, blue-sandy	18	33	
Streak of gravel & red sand	33	34	
Clay-gray & sandy	34	53	
Blue clay	53	64	
Brown silt	64	85	
Green clay	85	98	
Claystone-soft w/dark green	98	111	
Clay-soft gray-	111	119	
Clay-gray & blue	119	121	

Work started 7-11-74 19 Completed 7-25

Date well drilling machine moved off of well 7-25

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to the best of my knowledge and belief.

[Signed] San Morris Date Aug. 1
(Drilling Machine Operator) 878

Drilling Machine Operator's License No.

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Scheon Electric & Pump
(Person, firm or corporation) (Type or print)

Address 626 W. Queen St., Albany, Oregon 9

[Signed] Samy E. Schoen
(Water Well Contractor)

Contractor's License No. 513 Date 8/1

State Permit No. _____

Bent
1782

County Benton Driller's well number 10
 1/4 1/4 Section 19 T10S R 4W
 Tax Lot # _____ Lot _____ Blk _____ Subdivision _____
 Address at well location: _____

Depth at which water was first found 556
 Static level 35 ft. below land surface. Date 12/
 Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing 6"
Depth drilled 564 ft. Depth of completed well 564

Formation: Describe color, texture, grain size and structure of materials; and thickness and nature of each stratum and aquifer penetrated, with at least one for each change of formation. Report each change in position of Static Water and indicate principal water-bearing strata.

[illegible]

Work started 12/10/1980 Completed 12/12/
Date well drilling machine moved off of well 12/12/

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials and information reported above are true to my best knowledge and belief.

[Signed] James L. White Date 12/29/2011
(Drilling Machine Operator)

Drilling Machine Operator's License No.503

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is the best of my knowledge and belief.

Name Raymond C. Cellatly & Ronald S. wit

Name Philomath, Inc. (Person, firm or corporation) (Type or print)
Address P.O. Box 1, Philomath, Or.
[Signed] Raymond C. Hedrick (Water Well Contractor)
Contractor's License No. 7.7 Date 12/29/91

Contractor's License No. 77 Date 12/29/

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310

SP-13

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report
are to be filed with the

WATER RESOURCES DEPARTMENT
SALEM, OREGON 97310

SP-13

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The original and first copy of this report
are to be filed with the

WATER RESOURCES DEPARTMENT
SALEM, OREGON 97310

SP-13

(1) OWNER:

Name Milo K. Merrill
Address 9365 N.W. Tampico Rd.
Corvallis Or. 97330

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☒ Driven ☐
C ☐ Jetted ☐
D. ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:

6" Diam. from 0 ft. to 20 ft. Gage 250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? ☐ Yes ☒ No.

Type of perforator used

Size of perforations	in. by	in.
perforations from	ft. to	ft.
perforations from	ft. to	ft.
perforations from	ft. to	ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

a pump test made? ☒ Yes ☐ No If yes, by whom? G&W
Yield: 20 gal./min. with 350 ft. drawdown after 2 hrs.
" " " "
" " " "
" " " "
" " " "
Artesian flow _____ g.p.m.
Temperature of water 52 Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used cement
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 8 sacks
How was cement grout placed? pressure

Was a drive shoe used? ☐ Yes ☒ No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? ☐ Yes ☒ No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Benton Driller's well number 9
1/4 1/4 Section 19 T. 10S R. 4W
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 425
Static level 73 ft. below land surface. Date 7/8/80
Artesian pressure _____ lbs. per square inch. Date 6/25/80

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 454 ft. Depth of completed well 454

Formation: Describe color, texture, grain size and structure of material and show thickness and nature of each stratum and aquifer penetrated with at least one entry for each change of formation. Report each change of formation, position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SV
brown clay & grit	0	4	
brown clay & sm. bldrs	4	10	
broken blk basalt	10	15	
hd gray basalt	15	45	
blk basalt & white qtz	45	150	
blk basalt	150	265	
broken blk basalt	265	375	
blk basalt & white qtz			
boring 20 gpm	375	454	

RECEIVED

JUL 19 1980

WATER RESOURCES DEPT
SALEM, OREGON

Work started 6/25/80 Completed 6/25/80
Date well drilling machine moved off of well 6/25/80

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to the best knowledge and belief.

(Signed) Raymond C. Gellatly Date 7/8/80
(Drilling Machine Operator)

Drilling Machine Operator's License No. 503

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Raymond C. Gellatly & Ronald S. Witt
(Person, firm or corporation) (Type or print)

Address P.O. Box 1, Philomath, Or. 97370

(Signed) Raymond C. Gellatly
(Water Well Contractor)

Contractor's License No. 77 Date 7/8/80

State Well No. 10744-1
State Permit No. B-1

(USE ADDITIONAL SHEETS IF NECESSARY)

Bent
2155

JUN 6 1992

105/561-28

State Permit No

sp

SP

APPENDIX D
GROUNDWATER SAMPLING PROGRAM, COFFIN BUTTE LANDFILL



April 17, 1995
Project 40139-001.049

Mr. William Webber
Valley Landfills, Inc.
P.O. Box 807
Corvallis, Oregon 97339

Re: Results of Groundwater Monitoring at Coffin Butte Landfill, Benton County,
Oregon

Dear Mr. Webber:

This letter describes the results of groundwater sampling and analysis of selected wells at the Coffin Butte Landfill for radioactive substances. Five wells were sampled, four of which are downgradient of cell 1A, and one upgradient of the landfill. The downgradient wells monitor shallow and deep groundwater zones. The results demonstrate that there is no leaching of radioactive material from the landfill to groundwater. Below, EMCON describes the methods and procedures used for sampling and analysis.

Groundwater samples were analyzed for gross alpha and gross beta particle activities in water. The analytical method is a screening technique for alpha and beta particle activities according to the limits set forth under the Federal Safe Drinking Water Act (SDWA). The standard for gross alpha particle activity under the SDWA is 15 picocuries per liter. There is no standard for gross beta.

The water samples were collected on March 3, 1995, from wells MW-10S, MW-10D, MW-11S, MW-11D, and MW-13 consistent with the water sampling and analysis plan for the Coffin Butte Landfill. The samples were sent to Energy Laboratories, Inc., of Casper, Wyoming, for analysis.

The laboratory results (attached) show that gross alpha activity was not detected in samples from four of the five wells. In one of the samples (from MW-10S), a trace of gross alpha activity was measured at a level that is well below the standard. Gross beta activity was measured in samples from three of the wells, one of which is the background well (MW-13). The gross beta activity in the downgradient wells is equivalent to or less than that measured in the background well.



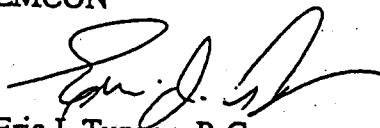
Mr. William Webber
April 17, 1995
Page 2

Project 40139-001.049

If you have any questions about the results, please call.

Sincerely,

EMCON

A handwritten signature in dark ink, appearing to read "Eric J. Tuppan", written over the printed name.

Eric J. Tuppan, R.G.,
Senior Project Geologist

Attachments: Laboratory Report

cc/att: Dorothy Atwood; EMCON, Portland

LABORATORY ANALYSIS REPORT - EMCON Northwest

Report Date: 03-22-95

Lab I.D. #	Sample I.D.	Sample Date	Gross Alpha (dissolved)		Gross Beta (dissolved)	
			pCi/l	Prec ±	pCi/l	Prec ±
MW-13	95-13189	CB-0303 95-1	03-03-95	< 1.0	2.8	2.2
					3.4	2.7
MW-10D	95-13190	CB-0303 95-2	03-03-95	< 1.0		
MW-10S	95-13191	CB-0303 95-3	03-03-95	1.9	1.8	< 1.0
					1.4	1.4
MW-11D	95-13192	CB-0303 95-4	03-03-95	< 1.0		
MW-11S	95-13193	CB-0303 95-5	03-03-95	< 1.0	< 1.0	
					1.0	
Detection Limit:			1.0		1.0	

Report Approved by:

R.O. Leach

PIM 13189emc.wk3

306
Coffin Butte

RECEIVED
MAY 1 1995
WESTERN REGION - SALEM OFFICE

April 27, 1995

Oregon Department of Environmental Quality
Charles W. Donaldson, Manager Solid Waste Western Region
750 Front Street NE Ste. 120
Salem, OR 97310

RE: Alternate daily cover material

Dear Mr. Donaldson:

Coffin Butte Landfill is using the James River Corporation (Halsey) recycled paper sludge for alternate daily cover. Per your letter dated 4/24/95, this material has met your approval for use as a daily cover. We request paying the \$.30 per ton on this material per temporary DEQ rule adopted Feb. 15, 1995. We expect to accept and use 15,000 tons per quarter of the James River sludge for daily cover.

Sincerely,



Gary A. Barton, Controller
Valley Landfills, Inc.

Valley Landfills, Inc.
P.O. Box 807, Corvallis, OR 97339
503-757-9067

R E C Y C L E D P A P E R

Parameter (MCL in ppb)	MW- 10S	MW- 10D	MW- 11S	MW- 11D	MW- 12S	MW-17	MW-18	MW-19
Toluene (1000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND
1,1,1-TCA (200)	0.2	0.2	0.2	0.6	ND	ND	ND	ND
TCE(5)	ND	0.1	1.5	1.6	2.8	ND	ND	ND
Trichloro- trifluoro- methane	ND	ND	0.1	0.3	ND	ND	ND	ND
Vinyl Chloride(2)	3.0	3.7	0.9	2.0	ND	ND	ND	ND
total Xylenes (10000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND

ND = not detected above method detection limits

Elevated magnesium levels were also detected in MW-10, MW-11, and MW-17 which may be attributed to the disposal of magnesium wastes in Cell 1A by Wah Chang.

The site consultant contends that MW-17 through MW-19 can be used as new compliance monitoring points instead of MW-10 and MW-11 in this area. The results of analyses to date from MW-17 through MW-19 are predominantly 'non-detect' for parameters analyzed, however these wells do not extend into the fresh basalt unit as compared to MW-10D and MW-11D, where vinyl chloride has been detected at or above MCLs (chemical degradation path: PCE-TCE-DCE-vinyl chloride).

Pulp sludge that is used as cover material came into question in 1991 and 1992. A composite sample was analyzed for TCLP metals, TCLP VOCs, dioxin and furan. Only dioxin and furan were detected above method detection limits at 0.96 and 5.0 pg/g or parts per quadrillion.

Information was not available on the potential presence of radionuclides in the groundwater downgradient of Cell 1A. General information from Solid Waste Program representatives indicated that the Oregon Health Division had been notified when the issue was first raised in the mid-80s.

Table 1
Volatile Organic Compounds Detected
Units in ug/l

Parameter	Date	MW-20	MW-21	MCL
MEK	9/29/93	2U*	4	---
	2/24/94	2U	5	
	8/11/94	2U	2U	
	11/4/94	20U	20U	
	2/10/95	20U	20U	
cis-1,2-Dichloroethene	9/29/93	0.5U	0.6	70
	2/24/94	0.5U	0.5	
	8/11/94	0.5U	0.5	
	11/4/94	0.5U	0.6	
	2/10/95	0.5U	0.5U	
Toluene	9/29/93	0.5U	0.7	1000
	2/24/94	0.5U	0.5U	
	8/11/94	0.5U	0.5U	
	11/4/94	0.5U	0.5U	
	2/10/95	0.5U	0.5U	
Chlorobenzene	9/29/93	0.5U	5.0	100
	2/24/94	0.9	3.7	
	8/11/94	0.5U	3.9	
	11/4/94	0.5U	3.7	
	2/10/95	0.5U	2.5	
Total xylenes	9/29/93	0.5U	1.2	10,000
	2/24/94	0.5U	0.5U	
	8/11/94	0.6	0.5U	
	11/4/94	0.5U	0.5U	
	2/10/95	0.5U	0.5U	
1,2-Dichlorobenzene	9/29/93	0.5U	1.0	600
	2/24/94	0.5U	1.1	
	8/11/94	0.5U	0.8	
	11/4/95	0.5U	1.1	
	2/10/95	0.5U	0.5	

* U = the material was analyzed for, but not detected at a concentration greater than the associated value.

One semi-volatile organic compound, bis(2-ethylhexyl)Phthalate, was detected at one sampling event in MW-20 and MW-21 at 40 and 330 ppb, respectively. This compound is a plasticizer commonly found in landfill leachate and also could be attributed to sample containers.

Major cations and trace metals were detected in the groundwater samples collected. The levels of trace metals were below drinking water standards.

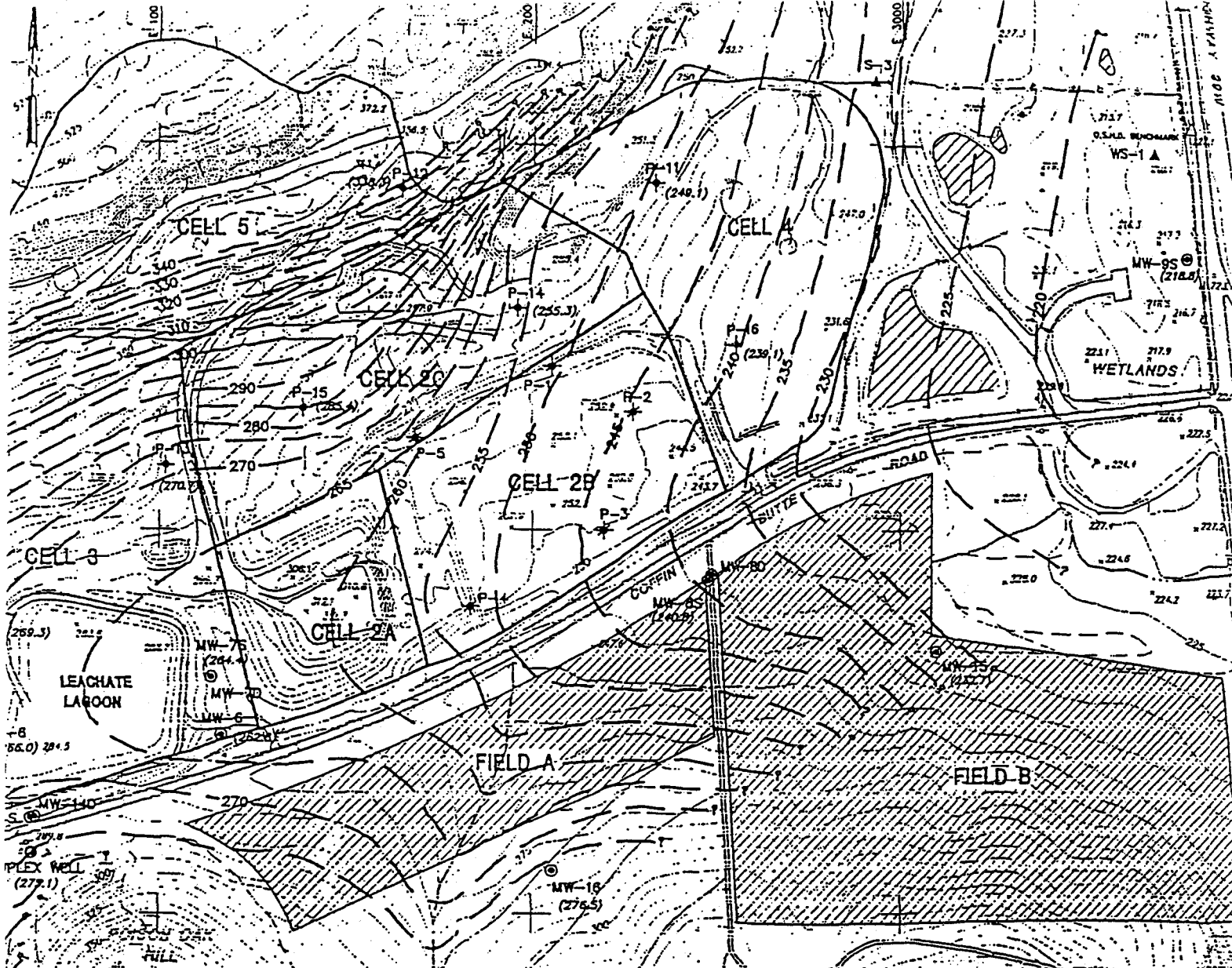
Water quality samples have not been collected from P-9 and P-10. Surface water quality samples collected from upstream and downstream location on Soap Creek indicate increased levels of indicator parameters at the downstream location.

Cells 1 and 1A are located on the south slope of Coffin Butte with a total estimated area of three acres. Seven monitoring wells and well nests were installed downslope of these two disposal cells. Well construction details are provided in Table 2 below.

Table 2
Well Construction Summary

Location	Total Depth (ft)	Screened Interval (ft)	Date Completed	Geologic Unit screened	Status
MW-5/S	4.5	3-4.5	11/16/79	alluvium	decommissioned 5/28/91
MW-5/I	30	24-29	11/16/79	wx basalt*	decommissioned 5/28/91
MW-5/D	58	53-58	11/16/79	wx basalt	decommissioned 5/28/91
MW-10/S	32	22-32	8/2/85	wx basalt	in use
MW-10/D	77	67-77	8/2/85	fresh basalt	in use
MW-11/S	32	22-32	8/5/85	wx basalt	in use
MW-11/D	75	65-75	8/5/85	fresh basalt	in use
MW-12/S	26	21-26	9/19/91	wx and fresh basalt	in use
MW-12/D	61	55-60	9/19/91	fresh basalt	in use
MW-17	27	16-26	7/15/93	wx basalt	in use
MW-18	21	11-21	7/15/93	wx basalt	in use
MW-19	24	13.5-23	7/16/93	wx basalt	in use

wx basalt = weathered basalt



DATE 7/94
 OWL DHK
 APPR. EJT
 REVIS
 PROJECT NO.
 0139001.03

0139\001\07PC94-2 07-14-94 RFH PLC 1-1P



Domestic Wells
Landfill Cells

APPENDIX E
LABORATORY DATA RESULTS AND DATA VALIDATION REPORTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

1200 Sixth Avenue
Seattle, Washington 98101

June 6, 1996

RECEIVED

JUN 11 1996

URS CONSULTANTS

REPLY TO
ATTN OF: OEA-095

DCL#: 62760.41.60.1213 1996
FILE NO.: 51a
CC: TK
PM DPM SM C/SM FILE X

MEMORANDUM

SUBJECT: Data Validation for Camp Adair, Case# 24554, SDG # MJK671, Metals analysis

FROM: Donald Matheny, Chemist *DM*
Quality Assurance & Data Unit, OEA

TO: Mark Ader, Project Manager
Office of Environmental Cleanup

The validation of metals analysis for case # 24554, SDG # MJK671 is complete. This SDG was comprised of 18 soil and 2 water samples which were analyzed for metals by Chester LabNet of Houston, TX. The samples were numbered:

MJK671	MJK672	MJK673	MJK674	MJK675
MJK676	MJK677	MJK678	MJK679	MJK380
MJK383	MJK386	MJK387	MJK688	MJK689
MJK691	MJK692	MJK693	MJK694*	MJK695*

* Water samples

DATA QUALIFICATIONS

The following comments refer to the laboratory's performance in meeting quality control specifications outlined in the "CLP Statement of Work (CLP-SOW) for Inorganic Analysis, ILMO4.0", and the "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540/R-94-013". Data qualifications presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The holding time from the date of collection to the date of digestion and analyses were met for all metals (180 days, mercury 28 days). Samples were collection and analyses dates are provided in the table below. Laboratory verification of cooler temperature (4°C) upon receipt was documented.

Sample #	Sample Date	ICP	Analyses Dates	
			GFAA*	Mercury
MJK671	4-09-96	5-05-96	5-13-96	4-23-96
MJK672	4-10-96	" "	5-14-96	" "
MJK673	4-11-96	" "	" "	" "
MJK674	4-09-96	" "	5-13-96	" "
MJK675	" "	" "	" "	" "
MJK676	" "	" "	" "	" "
MJK677	" "	" "	5-14-96	" "
MJK678	4-10-96	" "	" "	" "
MJK679	4-09-96	" "	5-13-96	" "
MJK680	4-10-96	" "	5-14-96	" "
MJK683	4-11-96	" "	5-13-96	" "
MJK686	4-10-96	" "	" "	" "
MJK687	" "	" "	" "	" "
MJK688	" "	" "	" "	" "
MJK689	" "	" "	" "	" "
MJK691	4-09-96	" "	" "	" "
MJK692	4-10-96	" "	" "	" "
MJK693	" "	" "	" "	" "
MJK694	4-09-96	" "	" "	4-19-96
MJK695	4-10-96	" "	" "	4-19-96

* Indicates the latest date for GFAA analysis.

2.0 INSTRUMENT CALIBRATION/VERIFICATION - Acceptable

For ICP-AES analysis, instrument calibration was performed with a blank and single calibration standard for each element meeting the calibration requirement.

For GFAA analysis, instrument calibration was performed with a blank and four standards (except for lead used three standards). Correlation coefficients for each calibration curve (0.995 - 0.999) met the linearity requirement (≥ 0.995).

For CVAAS mercury analysis, instrument calibration was performed with a blank and five standards. The calibration curve had a correlation coefficient of 0.999 which met the linearity requirement (≥ 0.995).

Calibration verification for ICP-AES, GFAA and Hg CVAA analyses was performed in accordance with the required frequency (10%) and the recovery range (91-109%) met the recovery criteria (ICP/GFAA; 90-110%, CVAA; 80-120%). CRDL standards were analyzed at the required frequency and concentrations.

3.0 ICP-AES INTERFERENCE CHECK SAMPLE (ICS) - Acceptable

Percent recoveries for the ICS (85-118%) met the recovery criterion (80-120%) and the frequency requirements for analysis (5%). No interferences are suspected based upon ICS performance and indigenous elemental concentrations.

4.0 LABORATORY CONTROL SAMPLES (LCS) - Acceptable

All metals results for the LCS were within the control limit established for soils.

5.0 BLANKS

Results for all blanks were non-detected or below a factor of 5 times that found in associated samples with the exception of the beryllium (CCB; 0.8, 0.6 ug/l) and manganese (1.8, 1.3 ug/l). As a result, the following samples were qualified "U". For beryllium, all soil samples with the exception of MJK672, MJK673, MJK680, MJK683, MJK687 and MJK692. For manganese, MJK694 and MJK695 (water samples).

6.0 MATRIX SPIKE ANALYSIS

Percent recoveries for matrix spike samples (83-108%) were within the limits of 75-125% with the exception of antimony (40.8%), cadmium (74.5%) and silver (43.2%). As a result, all soil sample results for antimony and silver were qualified "J" or "UJ". Cadmium results were not qualified due to only a slight exceedance of the criterion.

7.0 DUPLICATE SAMPLE ANALYSIS - Acceptable

Sample duplicate relative percent differences ($\leq 0.4\%$ or within 2 X CRDL) met the $\pm 35\%$ (or ± 2 X CRDL) criterion for soils.

8.0 ICP-AES SERIAL DILUTION

Results for the five-fold serial dilution met the $\pm 10\%$ difference criterion with the exception of the following:

Aluminum (15.1%)	Iron (10.1%)
Barium (12.5%)	Magnesium (10.8%)
Calcium (11.6%)	Manganese (11.7%)
Chromium (11.3%)	Zinc (14.1%)

Because most of the exceedances were just slightly over the criterion, only aluminum and zinc were qualified "J" due to serial dilution results.

9.0 Graphite Furnace Atomic Absorption QC

Analytical spike recoveries and method of standard addition (MSA) determinations met the technical criteria with the exception of the following:

- Correlation coefficients for the MSA determinations of arsenic in samples MJK680 (0.977) and MJK683 (0.926) were below the ≥ 0.995 criterion. These samples were qualified "J" for arsenic.
- Analytical spike recoveries for selenium were below the 85-115% criterion (sample absorbances were $< 50\%$ of spike absorbance) for the following samples:

MJK671	MJK676	MJK679	MJK691	MJK686
MJK687	MJK688	MJK692	MJK695	MJK683

As a result, these samples were qualified "J" for selenium.

10.0 Laboratory Contact

No laboratory was contact was made for this SDG.

11.0 ASSESSMENT SUMMARY

The following is a summary of the qualified data:

12 beryllium soil results and two manganese water results were qualified (U) due to the presence of these elements in associated blank samples. All antimony and silver results were qualified (J or UJ) due to low spike recoveries. Values for antimony and silver may be biased low. Two arsenic results were qualified (J) due to low correlation coefficients for MSA determinations. 10 selenium results were qualified (J) due to low analytical spike recoveries. Qualified selenium values may be biased low. All aluminum and zinc data were qualified (J) due to a high percent difference in the serial dilution result. Aluminum and zinc values may be biased low. The following contains a list of data qualifiers and their definitions.

DATA QUALIFIERS

- U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- J - The associated value is an estimated quantity.
- R - The data are unusable. (Note: Analyte may or may not be present.)
- UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK671

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067703

Level (low/med): LOW Date Received: 04/11/96

% Solids: 73.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34900	-	P J	P
7440-36-0	Antimony	7.5	U	# UJ	P
7440-38-2	Arsenic	0.99	B		F
7440-39-3	Barium	93.4		P	P
7440-41-7	Beryllium	0.52	B	U	P
7440-43-9	Cadmium	0.92	U	#	P
7440-70-2	Calcium	8150		P	P
7440-47-3	Chromium	126		P	P
7440-48-4	Cobalt	58.9			P
7440-50-8	Copper	76.2			P
7439-89-6	Iron	61100		P	P
7439-92-1	Lead	0.41	B	#	F
7439-95-4	Magnesium	12200		P	P
7439-96-5	Manganese	1520		P	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	73.4			P
7440-09-7	Potassium	295	U		P
7782-49-2	Selenium	0.54	B	# J	F
7440-22-4	Silver	1.0	U	# UJ	P
7440-23-5	Sodium	911	B		P
7440-28-0	Thallium	0.51	U	#	F
7440-62-2	Vanadium	192			P
7440-66-6	Zinc	71.0		P J	P
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

000007

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK674

Lab Name: CHESTER_LABNET_____ Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554_ SAS No.: _____ SDG No.: MJK671

Matrix (soil/water): SOIL_____ Lab Sample ID: H6067704

Level (low/med): LOW_____ Date Received: 04/11/96

% Solids: _____65.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	41000	—	E J	P
7440-36-0	Antimony	12.7	B	N J	P
7440-38-2	Arsenic	0.89	U	N	F
7440-39-3	Barium	132	—	E	P
7440-41-7	Beryllium	0.67	B	N U	P
7440-43-9	Cadmium	1.0	U	N	P
7440-70-2	Calcium	9480	—	E	P
7440-47-3	Chromium	171	—	E	P
7440-48-4	Cobalt	92.1	—	—	P
7440-50-8	Copper	82.1	—	—	P
7439-89-6	Iron	79100	—	E	P
7439-92-1	Lead	1.0	—	—	F
7439-95-4	Magnesium	14300	—	E	P
7439-96-5	Manganese	2150	—	E	P
7439-97-6	Mercury	0.15	U	—	CV
7440-02-0	Nickel	76.6	—	—	P
7440-09-7	Potassium	335	U	—	P
7782-49-2	Selenium	0.31	B	—	F
7440-22-4	Silver	1.2	U	N U J	P
7440-23-5	Sodium	1540	—	—	P
7440-28-0	Thallium	0.58	U	N	F
7440-62-2	Vanadium	275	—	—	P
7440-66-6	Zinc	79.7	—	E J	P
	Cyanide	—	—	—	NR

Color Before: BLACK_____ Clarity Before: _____ Texture: FINE_____

Color After: YELLOW_____ Clarity After: _____ Artifacts: _____

Comments:

000008

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK675

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067705

Level (low/med): LOW Date Received: 04/11/96

% Solids: 51.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45700	-	E J	P
7440-36-0	Antimony	11.6	B	N J	P
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	143		E	P
7440-41-7	Beryllium	0.84	B	U	P
7440-43-9	Cadmium	1.3	U	N	P
7440-70-2	Calcium	10600		E	P
7440-47-3	Chromium	203		E	P
7440-48-4	Cobalt	92.7			P
7440-50-8	Copper	106			P
7439-89-6	Iron	90800		E	P
7439-92-1	Lead	1.5			F
7439-95-4	Magnesium	16400		E	P
7439-96-5	Manganese	2290		E	P
7439-97-6	Mercury	0.19	U		CV
7440-02-0	Nickel	79.6			P
7440-09-7	Potassium	422	U		P
7782-49-2	Selenium	0.39	U		F
7440-22-4	Silver	1.5	U	N U J	P
7440-23-5	Sodium	1120	B		P
7440-28-0	Thallium	0.74	U	N	F
7440-62-2	Vanadium	327			P
7440-66-6	Zinc	98.4		E J	P
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

000009

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK676

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067708

Level (low/med): LOW Date Received: 04/11/96

% Solids: 70.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23800	-	# J	P
7440-36-0	Antimony	9.3	B	# J	P
7440-38-2	Arsenic	2.7	B		F
7440-39-3	Barium	142		#	P
7440-41-7	Beryllium	0.61	B	U	P
7440-43-9	Cadmium	0.97	U	#	P
7440-70-2	Calcium	6880		#	P
7440-47-3	Chromium	94.8		#	P
7440-48-4	Cobalt	69.2			P
7440-50-8	Copper	69.2			P
7439-89-6	Iron	53700		#	P
7439-92-1	Lead	2.7			F
7439-95-4	Magnesium	9040		#	P
7439-96-5	Manganese	2100		#	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	50.0			P
7440-09-7	Potassium	311	U		P
7782-49-2	Selenium	0.85	B	# J	F
7440-22-4	Silver	1.1	U	# UJ	P
7440-23-5	Sodium	880	B		P
7440-28-0	Thallium	0.54	U	#	F
7440-62-2	Vanadium	182			P
7440-66-6	Zinc	63.5		# J	P
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

MJK677

Lab Name: CHESTER LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067709

Level (low/med): LOW Date Received: 04/11/96

% Solids: 56.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

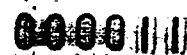
CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	46100	-	E J	P
7440-36-0	Antimony	13.6	B	H J	P
7440-38-2	Arsenic	1.9	B		F
7440-39-3	Barium	154		E	P
7440-41-7	Beryllium	0.90	B	U	P
7440-43-9	Cadmium	1.2	U	H	P
7440-70-2	Calcium	10200	-	E	P
7440-47-3	Chromium	184	-	E	P
7440-48-4	Cobalt	91.9	-		P
7440-50-8	Copper	94.7	-		P
7439-89-6	Iron	85100	-	E	P
7439-92-1	Lead	2.3	-		F
7439-95-4	Magnesium	15000	-	E	P
7439-96-5	Manganese	2370	-	E	P
7439-97-6	Mercury	0.18	U		CV
7440-02-0	Nickel	74.8	-		P
7440-09-7	Potassium	384	U		P
7782-49-2	Selenium	1.3	B	E	F
7440-22-4	Silver	1.3	U	H U J	P
7440-23-5	Sodium	1090	B		P
7440-28-0	Thallium	0.67	U	H	F
7440-62-2	Vanadium	311	-		P
7440-66-6	Zinc	92.6	-	E J	P
	Cyanide		-		NR

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Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:



1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK679

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067710

Level (low/med): LOW Date Received: 04/11/96

% Solids: 70.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37500	-	# J	P
7440-36-0	Antimony	9.6	B	# J	P
7440-38-2	Arsenic	2.7	B		F
7440-39-3	Barium	161		#	P
7440-41-7	Beryllium	0.83	B	U	P
7440-43-9	Cadmium	0.97	U	#	P
7440-70-2	Calcium	7810		#	P
7440-47-3	Chromium	145		#	P
7440-48-4	Cobalt	80.8			P
7440-50-8	Copper	73.6			P
7439-89-6	Iron	74500		#	P
7439-92-1	Lead	2.3			F
7439-95-4	Magnesium	11400		#	P
7439-96-5	Manganese	2190		#	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	62.7			P
7440-09-7	Potassium	311	U		P
7782-49-2	Selenium	0.71	B	# J	F
7440-22-4	Silver	1.1	U	# U J	P
7440-23-5	Sodium	778	B		P
7440-28-0	Thallium	0.54	U	#	F
7440-62-2	Vanadium	276			P
7440-66-6	Zinc	78.2		# J	P
	Cyanide				NR

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6-6-96

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK691

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067711

Level (low/med): LOW Date Received: 04/11/96

% Solids: 49.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	53000		E J	P
7440-36-0	Antimony	11.5	B	H J	P
7440-38-2	Arsenic	1.5	B		F
7440-39-3	Barium	134		E	P
7440-41-7	Beryllium	1.1	B	U	P
7440-43-9	Cadmium	1.4	U	H	P
7440-70-2	Calcium	11300		E	P
7440-47-3	Chromium	207		E	P
7440-48-4	Cobalt	90.2			P
7440-50-8	Copper	118			P
7439-89-6	Iron	90300		E	P
7439-92-1	Lead	1.5			F
7439-95-4	Magnesium	16400		E	P
7439-96-5	Manganese	2190		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	82.8			P
7440-09-7	Potassium	443	U		P
7782-49-2	Selenium	1.2	B	H J	F
7440-22-4	Silver	1.5	U	H U J	P
7440-23-5	Sodium	927	B		P
7440-28-0	Thallium	0.77	U		F
7440-62-2	Vanadium	340			P
7440-66-6	Zinc	103		E J	P
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK672

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067715

Level (low/med): LOW Date Received: 04/12/96

% Solids: 51.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	31400	-	E J	P
7440-36-0	Antimony	10.8	U	H U J	P
7440-38-2	Arsenic	5.6	-		F
7440-39-3	Barium	277	-	E	P
7440-41-7	Beryllium	1.3	B		P
7440-43-9	Cadmium	1.3	U	H	P
7440-70-2	Calcium	4550	-	E	P
7440-47-3	Chromium	64.0	-	E	P
7440-48-4	Cobalt	45.8	-		P
7440-50-8	Copper	81.5	-		P
7439-89-6	Iron	59700	-	E	P
7439-92-1	Lead	6.0	-	E	F
7439-95-4	Magnesium	5260	-	E	P
7439-96-5	Manganese	1880	-	E	P
7439-97-6	Mercury	0.19	U		CV
7440-02-0	Nickel	40.3	-		P
7440-09-7	Potassium	1080	B		P
7782-49-2	Selenium	1.7	B	E	F
7440-22-4	Silver	1.5	U	H U J	P
7440-23-5	Sodium	224	B		P
7440-28-0	Thallium	0.74	U	H	F
7440-62-2	Vanadium	188	-		P
7440-66-6	Zinc	86.5	-	E J	P
	Cyanide		-		NR

6-6-96

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK678

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067716

Level (low/med): LOW Date Received: 04/12/96

% Solids: 63.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37400	-	U	P
7440-36-0	Antimony	8.8	U	U	P
7440-38-2	Arsenic	4.9	-	-	F
7440-39-3	Barium	247	-	U	P
7440-41-7	Beryllium	0.93	B	U	P
7440-43-9	Cadmium	1.1	U	U	P
7440-70-2	Calcium	11100	-	U	P
7440-47-3	Chromium	151	-	U	P
7440-48-4	Cobalt	116	-	-	P
7440-50-8	Copper	91.1	-	-	P
7439-89-6	Iron	87800	-	U	P
7439-92-1	Lead	2.7	-	U	F
7439-95-4	Magnesium	15500	-	U	P
7439-96-5	Manganese	3300	-	U	P
7439-97-6	Mercury	0.16	U	-	CV
7440-02-0	Nickel	84.5	-	-	P
7440-09-7	Potassium	345	U	-	P
7782-49-2	Selenium	1.2	B	U	F
7440-22-4	Silver	1.2	U	U	P
7440-23-5	Sodium	2200	-	-	P
7440-28-0	Thallium	0.60	U	U	F
7440-62-2	Vanadium	277	-	-	P
7440-66-6	Zinc	77.6	-	U	P
	Cyanide		-	-	NR

Color Before: LT.BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK680

Lab Name: CHESTER_LABNET_____ Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554_ SAS No.: _____ SDG No.: MJK671

Matrix (soil/water): SOIL_____ Lab Sample ID: H6067717

Level (low/med): LOW_____ Date Received: 04/12/96

% Solids: _____58.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	38100	-	E J	P
7440-36-0	Antimony	9.4	U	N U J	P
7440-38-2	Arsenic	6.8	-	A J	F
7440-39-3	Barium	318	-	E	P
7440-41-7	Beryllium	1.1	B		P
7440-43-9	Cadmium	1.2	U	N	P
7440-70-2	Calcium	8430	-	E	P
7440-47-3	Chromium	142	-	E	P
7440-48-4	Cobalt	184	-		P
7440-50-8	Copper	84.2	-		P
7439-89-6	Iron	97700	-	E	P
7439-92-1	Lead	4.2	-		F
7439-95-4	Magnesium	10000	-	E	P
7439-96-5	Manganese	5740	-	E	P
7439-97-6	Mercury	0.17	U		CV
7440-02-0	Nickel	81.4	-		P
7440-09-7	Potassium	370	U		P
7782-49-2	Selenium	2.1	-	E	F
7440-22-4	Silver	1.3	U	N U J	P
7440-23-5	Sodium	774	B		P
7440-28-0	Thallium	0.65	U	N	F
7440-62-2	Vanadium	348	-		P
7440-66-6	Zinc	80.1	-	E J	P
	Cyanide		-		NR

Color Before: BLACK_____ Clarity Before: _____ Texture: FINE_____

Color After: YELLOW_____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK686

Lab Name: CHESTER_LABNET_____ Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554_ SAS No.: _____ SDG No.: MJK671

Matrix (soil/water): SOIL_____ Lab Sample ID: H6067718

Level (low/med): LOW_____ Date Received: 04/12/96

% Solids: _____69.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19500	-	H J	P
7440-36-0	Antimony	8.0	U	H U J	P
7440-38-2	Arsenic	7.1	-	-	F
7440-39-3	Barium	214	-	H	P
7440-41-7	Beryllium	0.76	B	H U	P
7440-43-9	Cadmium	0.98	U	H	P
7440-70-2	Calcium	6130	-	H	P
7440-47-3	Chromium	36.4	-	H	P
7440-48-4	Cobalt	29.9	-	-	P
7440-50-8	Copper	29.8	-	-	P
7439-89-6	Iron	36900	-	H	P
7439-92-1	Lead	10.3	-	H	F
7439-95-4	Magnesium	6730	-	H	P
7439-96-5	Manganese	1970	-	H	P
7439-97-6	Mercury	0.14	U	-	CV
7440-02-0	Nickel	27.8	-	-	P
7440-09-7	Potassium	771	B	-	P
7782-49-2	Selenium	0.29	B	H J	F
7440-22-4	Silver	1.1	U	H U J	P
7440-23-5	Sodium	296	B	-	P
7440-28-0	Thallium	0.55	U	H	F
7440-62-2	Vanadium	96.9	-	-	P
7440-66-6	Zinc	70.9	-	H J	P
	Cyanide		-	-	NR

Color Before: BLACK_____ Clarity Before: _____ Texture: FINE_____

Color After: YELLOW_____ Clarity After: _____ Artifacts: _____

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK687

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067719

Level (low/med): LOW Date Received: 04/12/96

% Solids: 52.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35800	—	E J	P
7440-36-0	Antimony	10.6	U	H U J	P
7440-38-2	Arsenic	4.9	—	—	F
7440-39-3	Barium	425	—	E	P
7440-41-7	Beryllium	1.6	B	—	P
7440-43-9	Cadmium	1.3	U	H	P
7440-70-2	Calcium	6130	—	E	P
7440-47-3	Chromium	65.1	—	E	P
7440-48-4	Cobalt	46.6	—	—	P
7440-50-8	Copper	68.7	—	—	P
7439-89-6	Iron	83100	—	E	P
7439-92-1	Lead	17.9	—	E	F
7439-95-4	Magnesium	7450	—	E	P
7439-96-5	Manganese	2340	—	E	P
7439-97-6	Mercury	0.19	U	—	CV
7440-02-0	Nickel	40.8	—	—	P
7440-09-7	Potassium	1250	B	—	P
7782-49-2	Selenium	1.0	B	H J	F
7440-22-4	Silver	1.4	U	H U J	P
7440-23-5	Sodium	216	B	—	P
7440-28-0	Thallium	0.72	U	H	F
7440-62-2	Vanadium	223	—	—	P
7440-66-6	Zinc	87.0	—	E J	P
	Cyanide		—	—	NR

Color Before: LT.BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK688

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067720

Level (low/med): LOW Date Received: 04/12/96

% Solids: 49.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28700	-	P J	P
7440-36-0	Antimony	11.2	U	X U J	P
7440-38-2	Arsenic	7.5	-	-	F
7440-39-3	Barium	313	-	P	P
7440-41-7	Beryllium	1.2	B	U	P
7440-43-9	Cadmium	1.4	U	X	P
7440-70-2	Calcium	4490	-	P	P
7440-47-3	Chromium	47.8	-	P	P
7440-48-4	Cobalt	20.3	-	-	P
7440-50-8	Copper	43.6	-	-	P
7439-89-6	Iron	41600	-	P	P
7439-92-1	Lead	23.7	-	P	F
7439-95-4	Magnesium	5090	-	P	P
7439-96-5	Manganese	721	-	P	P
7439-97-6	Mercury	0.20	U	-	CV
7440-02-0	Nickel	26.5	-	-	P
7440-09-7	Potassium	1100	B	-	P
7782-49-2	Selenium	0.85	B	X J	F
7440-22-4	Silver	1.5	U	X U J	P
7440-23-5	Sodium	194	B	-	P
7440-28-0	Thallium	0.76	U	X	F
7440-62-2	Vanadium	139	-	-	P
7440-66-6	Zinc	69.1	-	P J	P
	Cyanide		-	-	NR

By 6-6-96

Color Before: LT.BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK689

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067723

Level (low/med): LOW Date Received: 04/12/96

% Solids: 49.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23000	—	# J	P
7440-36-0	Antimony	11.3	U	# UJ	P
7440-38-2	Arsenic	6.0	—	—	F
7440-39-3	Barium	246	—	#	P
7440-41-7	Beryllium	0.99	B	U	P
7440-43-9	Cadmium	1.4	U	#	P
7440-70-2	Calcium	4300	—	#	P
7440-47-3	Chromium	36.9	—	#	P
7440-48-4	Cobalt	20.4	—	—	P
7440-50-8	Copper	37.9	—	—	P
7439-89-6	Iron	34700	—	#	P
7439-92-1	Lead	11.0	—	—	F
7439-95-4	Magnesium	3930	—	#	P
7439-96-5	Manganese	1220	—	#	P
7439-97-6	Mercury	0.20	U	—	CV
7440-02-0	Nickel	25.0	—	—	P
7440-09-7	Potassium	926	B	—	P
7782-49-2	Selenium	0.69	B	—	F
7440-22-4	Silver	1.6	U	# UJ	P
7440-23-5	Sodium	174	B	—	P
7440-28-0	Thallium	0.78	U	#	F
7440-62-2	Vanadium	95.4	—	—	P
7440-66-6	Zinc	64.8	—	# J	P
	Cyanide	—	—	—	NR

Color Before: GREY Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM04.0

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U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK692

Lab Name: CHESTER_LABNET_____ Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554_ SAS No.: _____ SDG No.: MJK671

Matrix (soil/water): SOIL_ Lab Sample ID: H6067724

Level (low/med): LOW_ Date Received: 04/12/96

% Solids: 52.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	25100	-	ES	P
7440-36-0	Antimony	10.5	U	WUJ	P
7440-38-2	Arsenic	6.0	-	-	F
7440-39-3	Barium	308	-	ES	P
7440-41-7	Beryllium	1.2	B	-	P
7440-43-9	Cadmium	1.3	U	W	P
7440-70-2	Calcium	4690	-	ES	P
7440-47-3	Chromium	46.4	-	ES	P
7440-48-4	Cobalt	21.4	-	-	P
7440-50-8	Copper	44.2	-	-	P
7439-89-6	Iron	42200	-	ES	P
7439-92-1	Lead	13.1	-	-	F
7439-95-4	Magnesium	4980	-	ES	P
7439-96-5	Manganese	974	-	ES	P
7439-97-6	Mercury	0.24	-	-	CV
7440-02-0	Nickel	25.6	-	-	P
7440-09-7	Potassium	777	B	-	P
7782-49-2	Selenium	0.87	B	WJ	F
7440-22-4	Silver	1.4	U	WUJ	P
7440-23-5	Sodium	177	B	-	P
7440-28-0	Thallium	0.72	U	W	F
7440-62-2	Vanadium	136	-	-	P
7440-66-6	Zinc	69.2	-	ES	P
	Cyanide		-	-	NR

Color Before: GREY_ Clarity Before: _____ Texture: FINE_

Color After: YELLOW_ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK693

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067725

Level (low/med): LOW Date Received: 04/12/96

% Solids: 64.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11100	-	HS	P
7440-36-0	Antimony	8.6	U	HS	P
7440-38-2	Arsenic	5.9	-	-	F
7440-39-3	Barium	95.3	-	HS	P
7440-41-7	Beryllium	0.68	B	U	P
7440-43-9	Cadmium	1.1	U	HS	P
7440-70-2	Calcium	2350	-	HS	P
7440-47-3	Chromium	17.2	-	HS	P
7440-48-4	Cobalt	17.0	-	-	P
7440-50-8	Copper	14.7	-	-	P
7439-89-6	Iron	22200	-	HS	P
7439-92-1	Lead	7.9	-	-	F
7439-95-4	Magnesium	2220	-	HS	P
7439-96-5	Manganese	710	-	HS	P
7439-97-6	Mercury	0.16	U	-	CV
7440-02-0	Nickel	5.4	B	-	P
7440-09-7	Potassium	589	B	-	P
7782-49-2	Selenium	0.31	U	-	F
7440-22-4	Silver	1.2	U	HS	P
7440-23-5	Sodium	83.8	B	-	P
7440-28-0	Thallium	0.59	U	HS	F
7440-62-2	Vanadium	57.9	-	-	P
7440-66-6	Zinc	34.4	-	HS	P
	Cyanide		-	-	NR

Color Before: GREY Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

000023

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK673

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067727

Level (low/med): LOW Date Received: 04/12/96

% Solids: 54.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	41100	-	PS	P
7440-36-0	Antimony	10.3	U	PS	P
7440-38-2	Arsenic	3.6	B		F
7440-39-3	Barium	283		PS	P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	1.3	U	PS	P
7440-70-2	Calcium	7720		PS	P
7440-47-3	Chromium	126		PS	P
7440-48-4	Cobalt	73.6			P
7440-50-8	Copper	99.6			P
7439-89-6	Iron	88300		PS	P
7439-92-1	Lead	3.7			F
7439-95-4	Magnesium	9450		PS	P
7439-96-5	Manganese	2640		PS	P
7439-97-6	Mercury	0.18	U		CV
7440-02-0	Nickel	54.1			P
7440-09-7	Potassium	403	U		P
7782-49-2	Selenium	2.6		PS	F
7440-22-4	Silver	1.4	U	PS	P
7440-23-5	Sodium	257	B		P
7440-28-0	Thallium	0.70	U	PS	F
7440-62-2	Vanadium	282			P
7440-66-6	Zinc	85.2		PS	P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK683

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): SOIL Lab Sample ID: H6067728

Level (low/med): LOW Date Received: 04/12/96

% Solids: 50.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	42100	-	# J	P
7440-36-0	Antimony	11.1	U	# U J	P
7440-38-2	Arsenic	1.9	B	# J	F
7440-39-3	Barium	239	-	#	P
7440-41-7	Beryllium	1.4	B	-	P
7440-43-9	Cadmium	1.4	U	#	P
7440-70-2	Calcium	6970	-	#	P
7440-47-3	Chromium	109	-	#	P
7440-48-4	Cobalt	79.0	-	-	P
7440-50-8	Copper	104	-	-	P
7439-89-6	Iron	93000	-	#	P
7439-92-1	Lead	8.6	-	-	F
7439-95-4	Magnesium	8800	-	#	P
7439-96-5	Manganese	2370	-	#	P
7439-97-6	Mercury	0.20	U	-	CV
7440-02-0	Nickel	49.8	-	-	P
7440-09-7	Potassium	719	B	-	P
7782-49-2	Selenium	1.2	B	# J	F
7440-22-4	Silver	1.5	U	# U J	P
7440-23-5	Sodium	302	B	-	P
7440-28-0	Thallium	0.76	U	#	F
7440-62-2	Vanadium	298	-	-	P
7440-66-6	Zinc	103	-	# J	P
	Cyanide		-	-	NR

Color Before: GREY Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK694

Lab Name: CHESTER_LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): WATER Lab Sample ID: H6067712

Level (low/med): LOW Date Received: 04/11/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39.8	B		P
7440-36-0	Antimony	27.8	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	3.4	U		P
7440-70-2	Calcium	1080	B		P
7440-47-3	Chromium	4.3	U		P
7440-48-4	Cobalt	4.9	U		P
7440-50-8	Copper	4.6	U		P
7439-89-6	Iron	47.3	B		P
7439-92-1	Lead	0.90	U		F
7439-95-4	Magnesium	41.1	U		P
7439-96-5	Manganese	2.1	B	u	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	12.6	U		P
7440-09-7	Potassium	1090	U		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	365	B		P
7440-28-0	Thallium	1.9	U	*	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	44.3			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK695

Lab Name: CHESTER LABNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK671

Matrix (soil/water): WATER

Lab Sample ID: H6067726

Level (low/med): LOW

Date Received: 04/12/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34.0	U		P
7440-36-0	Antimony	27.8	U		P
7440-38-2	Arsenic	2.9	U		F
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	3.4	U		P
7440-70-2	Calcium	706	B		P
7440-47-3	Chromium	4.3	U		P
7440-48-4	Cobalt	4.9	U		P
7440-50-8	Copper	4.6	U		P
7439-89-6	Iron	33.8	B		P
7439-92-1	Lead	0.90	U	#	F
7439-95-4	Magnesium	41.1	U		P
7439-96-5	Manganese	1.8	B	u	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	12.6	U		P
7440-09-7	Potassium	1090	U		P
7782-49-2	Selenium	2.8	B	#J	F
7440-22-4	Silver	3.8	U		P
7440-23-5	Sodium	228	B		P
7440-28-0	Thallium	1.9	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	38.6			P
	Cyanide				NR

24
4-6-96

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILM04.0

000024



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

June 13, 1996

REPLY TO
ATTN OF: OEA-095

MEMORANDUM

SUBJECT: Data Validation for Camp Adair, Case# 24554, SDG # MJK682, Metals analysis

FROM: Donald Matheny, Chemist
Quality Assurance & Data Unit, OEA

TO: Mark Ader, Project Manager
Office of Environmental Cleanup

The validation of metals analysis for case # 24554, SDG # MJK682 is complete. Three soil samples were analyzed for metals by Chester LabNet of Houston, TX. The samples were numbered:

MJK682

CA12

MJK684

CA14

MJK685

CA15

DATA QUALIFICATIONS

The following comments refer to the laboratory's performance in meeting quality control specifications outlined in the "CLP Statement of Work (CLP-SOW) for Inorganic Analysis, ILMO4.0", and the "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540/R-94-013". Data qualifications presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The holding time from the date of collection to the date of digestion and analyses were met for all metals (180 days, mercury 28 days). Samples were collected on 04/11/96 and analyzed via ICP-AES on 05/06/96, GFAA on 05/07/96 thru 05/16/96 and mercury analysis on 04/25/96. Laboratory verification of cooler temperature (4°C) upon receipt was documented.

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

of pages **8**

To Jeff Kerner	From Don Matheny
Dept/Agency URS	Phone # 553-2599
Fax # 233-9570	Fax # -8210

2.0 INSTRUMENT CALIBRATION/VERIFICATION

For ICP-AES analysis, instrument calibration was performed with a blank and single calibration standard for each element meeting the calibration requirement.

For GFAA analysis, instrument calibration was performed with a blank and four standards (except for lead used three standards). Correlation coefficients met the linearity requirement (≥ 0.995) except for lead (0.971). As a result, all lead data were qualified "J".

For CVAAS mercury analysis, instrument calibration was performed with a blank and five standards. The calibration curve had a correlation coefficient of 0.994 which did not meet the linearity criterion (≥ 0.995). As a result, all mercury data were qualified "J" or "UJ".

Calibration verification for ICP-AES, GFAA and Hg CVAA analyses was performed in accordance with the required frequency (10%) and the recovery range (90-109%) met the recovery criteria (ICP/GFAA; 90-110%, CVAA; 80-120%). CRDL standards were analyzed at the required frequency and concentration.

3.0 ICP-AES INTERFERENCE CHECK SAMPLE (ICS) - Acceptable

Percent recoveries for the ICS met the 85-118% recovery criterion (80-120%) and the frequency requirements for analysis (5%). No interferences are suspected based upon ICS performance and indigenous elemental concentrations.

4.0 LABORATORY CONTROL SAMPLES (LCS) - Acceptable

All metals results for the LCS were within the control limit established for soils.

5.0 BLANKS

Results for all blanks were non-detected or below a factor of 5 times that found in associated samples with the exception of the beryllium (CCB; 0.8 ug/l). As a result, all samples were qualified "U" for beryllium.

6.0 MATRIX SPIKE ANALYSIS

Percent recoveries for matrix spike samples (88-119%) were within the limits of 75-125% with the exception of antimony (68%), arsenic (11%), lead (50%), selenium (48%) and silver (37%). As a result, all samples for these elements were qualified "J" or "UJ".

7.0 DUPLICATE SAMPLE ANALYSIS - Acceptable

Sample duplicate relative percent differences (<4%) met the $\pm 35\%$ (or $\pm 2 \times \text{CRDL}$) criterion for soils.

8.0 ICP-AES SERIAL DILUTION

Results for the five-fold serial dilution met the $\pm 10\%$ difference criterion with the exception of zinc (50%). As a result, all zinc data were qualified "J".

9.0 Graphite Furnace Atomic Absorption QC

Analytical spike recoveries and method of standard addition (MSA) determinations met the technical criterion with the exception of the following:

- The analytical spike recovery for arsenic was 39% for MJK685 (sample absorbance was > 50% of the analytical spike). This sample was qualified "J" for arsenic.
- The correlation coefficient (0.993) from the MSA determination for lead in sample MJK684 did not meet the linearity requirement (≥ 0.995). This sample was qualified "J" for lead.

10.0 Laboratory Contact

The laboratory was contacted on June 4, 1996 to resolve the following discrepancies.

- Lead and selenium values for MJK682 were transcribed incorrectly. Corrected Form 1, 5A, 6 and 8 were requested for submittal.
- LCSS true values identified on Form 7 did not match those identified in the raw data for all GFAA elements (indicating non-compliant recoveries for selenium and thallium). The reported analytical value for selenium also did not match the raw data. A corrected Form 7 was requested.

The laboratory responded on June 11, 1996 with the corrected Forms (facsimile). A copy of the laboratory contact sheet is attached.

11.0 ASSESSMENT SUMMARY

The following is a summary of the qualified data:

All beryllium data were qualified (U) due to the presence of beryllium in an associated blank sample. All mercury data were qualified (J or UJ) due to a low correlation coefficient of the instrument calibration curve. All lead data were qualified (J) due to a low correlation coefficient of the instrument calibration curve and a low matrix spike recovery. In addition, MJK684 was also qualified (J) due to a low

correlation coefficient for the MSA determination of lead. All antimony, arsenic, selenium and silver data were qualified (J or UJ) due to low spike recoveries. Results for all antimony, selenium, silver data and for samples MJK682 and MJK685 for arsenic may be biased low. Bias for the arsenic result for MJK684 could not be determined due a high analytical spike recovery for this sample. Additional (J) qualification for the arsenic result for MJK685 occurred due to a low analytical spike recovery. All zinc data were qualified (J) due to a high percent difference in the serial dilution result. Zinc results may be biased low.

The following contains a list of data qualifiers and their definitions.

DATA QUALIFIERS

- U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- J - The associated value is an estimated quantity.
- R - The data are unusable. (Note: Analyte may or may not be present.)
- UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

06/13/96 13:57 20206 553 8210
JUN-11-1996 10:51 FROM

CHESTER LABNET TO
REGION 10 ESD

12465538210 P.03 1000

U.S. EPA - CLP

CA12
EPA SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

MJK682

Lab Name: CHESTER LABNET

Contract: 68-D5-0140

Lab Code: CHESTX

Case No.: 24554

SAS No.:

SDG No.: MJK682

Matrix (soil/water): SOIL

Lab Sample ID: H6071701

Level (low/med): LOW

Date Received: 04/15/96

% Solids: 58.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	48500	-		P
7440-36-0	Antimony	9.6	B	N J	P
7440-38-2	Arsenic	12.0	-	N J	P
7440-39-3	Barium	223	-		P
7440-41-7	Beryllium	1.2	B	U	P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	7510	-		P
7440-47-3	Chromium	104	-		P
7440-48-4	Cobalt	79.8	-		P
7440-50-8	Copper	116	-		P
7439-89-6	Iron	85400	-		P
7439-92-1	Lead	6.4	-	N J	P
7439-95-4	Magnesium	9890	-		P
7439-96-5	Manganese	2460	-		P
7439-97-6	Mercury	0.17	U		CV
7440-02-0	Nickel	55.7	-		P
7440-09-7	Potassium	1120	B		P
7782-49-2	Selenium	1.4	B	N J	P
7440-22-4	Silver	1.3	U	N J	P
7440-23-5	Sodium	377	B		P
7440-28-0	Thallium	0.65	U	N	P
7440-62-2	Vanadium	272	-		P
7440-66-6	Zinc	99.8	-	N J	P
	Cyanide		-		NR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: YELLOW

Clarity After:

Artifacts:

Comments:

FORM I - IN

ILM04.0

Revised 6/11/96
060006

In Reference to Case No(s):

24554, SDG MJK682

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

Date of Call: June 4, 1996
Laboratory Name: Chester Lab/Pet - Houston
Lab Contact: Mary Cruz
Region: 10
Regional Contact: Don Matheny

Call Initiated By: Laboratory X Region

In reference to data for the following sample number(s):

MJK682, Forms SA, 6, 8, 7

Summary of Questions/Issues Discussed:

Lead and Selenium values for MJK682 do not match Raw Data.
Subsequent values and recoveries on Forms SA, 6 and 8 are also
incorrect.
True values for GFAA elements in the LCSS on the Form 7 did not
match those calculated in the Raw Data. The reported Selenium value
for the LCSS was also incorrect.

Summary of Resolution:

Corrections on Forms were received.


Signature

6/12/96
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

U.S. EPA - CLP

CA14

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJK684

Lab Name: CHESTER LARNET Contract: 68-D5-0140

Lab Code: CHESTX Case No.: 24554 SAS No.: SDG No.: MJK682

Matrix (soil/water): SOIL Lab Sample ID: H6071704

Level (low/med): LOW Date Received: 04/15/96

% Solids: 55.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	47900			P
7440-36-0	Antimony	10.0	U	N J	P
7440-38-2	Arsenic	11.5		MN J	F
7440-39-3	Barium	239			P
7440-41-7	Beryllium	1.4	B	U	P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	6870			P
7440-47-3	Chromium	112			P
7440-48-4	Cobalt	84.0			P
7440-50-8	Copper	104			P
7439-89-6	Iron	95600			P
7439-92-1	Lead	16.5		N J	F
7439-95-4	Magnesium	8900			P
7439-96-5	Manganese	2440			P
7439-97-6	Mercury	0.18	U	U J	CV
7440-02-0	Nickel	50.5			P
7440-09-7	Potassium	1100	B		P
7782-49-2	Selenium	1.1	B	MN J	F
7440-22-4	Silver	1.4	U	N U J	P
7440-23-5	Sodium	337	B		P
7440-28-0	Thallium	0.68	U		F
7440-62-2	Vanadium	306			P
7440-66-6	Zinc	101		B J	P
	Cyanide				NR

DM
4/13/96

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM04.0

000006

U.S. EPA - CLP

CA15

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

MJK685

Lab Name: CHESTER LABNET

Contract: 68-D5-0140

Lab Code: CHESTX

Case No.: 24554

SAS No.:

SDG No.: MJK682

Matrix (soil/water): SOIL

Lab Sample ID: H6071705

Level (low/med): LOW

Date Received: 04/15/96

% Solids: 65.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	47600			P
7440-36-0	Antimony	10.5	B	N J	P
7440-38-2	Arsenic	18.0		N J	F
7440-39-3	Barium	172			P
7440-41-7	Beryllium	0.89	B	U	P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	8010			P
7440-47-3	Chromium	148			P
7440-48-4	Cobalt	91.8			P
7440-50-8	Copper	81.3			P
7439-89-6	Iron	82200			P
7439-92-1	Lead	4.0		N J	F
7439-95-4	Magnesium	10700			P
7439-96-5	Manganese	2460			P
7439-97-6	Mercury	0.22		J	CV
7440-02-0	Nickel	70.9			P
7440-09-7	Potassium	332	U		P
7782-49-2	Selenium	1.3	B	N J	F
7440-22-4	Silver	1.2	U	N J	P
7440-23-5	Sodium	548	B		P
7440-28-0	Thallium	0.58	U		F
7440-62-2	Vanadium	293			P
7440-66-6	Zinc	90.9		E J	P
	Cyanide				NR

DM
6/13/96

Color Before: BLACK

Clarity Before:

Texture: FINE

Color After: YELLOW

Clarity After:

Artifacts:

Comments:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

1200 Sixth Avenue
Seattle, Washington 98101

DCL#: 827.41.2.1.1996
FILE NO. 512
CC: J*
PM DPM SM C/SM FILE

Reply To
Attn Of: OEA-095

July 23, 1996

MEMORANDUM

SUBJECT: Data Validation Report for Munitions Analysis of
Samples from Camp Adair

FROM: *[Signature]*
Ginna Grepo-Grove, Chemist
Office of Environmental Assessment

TO: *[Signature]*
Mark Ader, SAM/WAM
Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 2 water samples collected from the above referenced site has been completed. The samples were analyzed for trace explosives in accordance with SW846 - Method 8330, Nitroaromatics and Nitroamines by High Performance Liquid Chromatography (HPLC) from the Test Methods for Evaluating Solid Waste: Physical/Chemical Methods 3rd edition (9/94) and the regional laboratory guidelines at the USEPA Manchester Environmental Laboratory, Port Orchard, WA. The following samples were reviewed in this report:

96152351	96152352	96152353	96152354
96152355	96152356	96152357	96152358
96152359	96152360	96152362	96152363
96152364	96152365	96152366	96152367
96152368	96152369	96152371	96152372
96152373	96152374	96152375	

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the SW846 - Methods 8330 and 8000, the Manchester Environmental Laboratory Quality Assurance Manual (revision 5/88), the Sampling and Quality Assurance Plan for Camp Adair and the USEPA CLP National Functional Guidelines for Organic Data Review, 2/94.

The conclusions presented herein are based on the information provided for the review.

Holding Time

All of the samples were extracted and analyzed within the technical (40 CFR 136) and method required holding times with the exception of samples 96152374 and 96152375. The analytical holding times (40 days from extraction) for these samples were exceeded by 17 days. Due to possible low bias, the reported results for samples 96152374 and 96152375 were qualified as estimated, "UJ". The pertinent sample collection, laboratory receipt, extraction and analysis dates are tabulated in Table 1-Holding Time Summary attached at the end of this report.

Instrument Performance

A Perkin Elmer HPLC with diode array detection and a C18 column was used for the analyses. All initial identification and quantitation was based on the 255 nm wavelength on the instrument's A channel. The samples and standards were not analyzed on a secondary (CN reverse phase) column. Preliminary confirmations were made based on the ratio of absorbance of the A and B channels with a final check done by full spectrum UV scan for the peak of interest. Due to retention time shifts, each analytical run was manually checked for the detected target compounds. Note: Sample results were not qualified based on channel B responses due to the following reasons: (1) the quantitation was performed on the A channel (2) channel B was only used for confirmation of detected results (3) large variability of instrument responses for the target compounds in channel B.

Initial Calibration

The minimum five point initial calibration specified by the method was not met. Two four-point initial calibration curves were attempted by the laboratory. However, peak distortions and problems with chromatographic resolutions and solvent interferences were encountered. None of the target compounds were detected in any of the samples. Using professional judgment, the reviewer dropped either the low or high standard responses in the calculation of the percent relative standard deviations (%RSDs). The target compounds HMX, RDX, 1,3,5-trinitrobenzene (TNB), 1,3-dinitrobenzene, 2,4-dinitrotoluene and 3-nitrotoluene in the soil initial calibration exceeded the %RSD QC limit (30%). The quantitation limits for these compounds in the associated samples were qualified as estimated, "UJ". The 10 ng standard for the soil initial calibration did not give responses for tetryl and 4-amino-2,6-dinitrobenzene. The quantitation limits for these compounds in the associated samples were qualified as estimated, "UJ". All of the water sample results were already qualified due to holding time exceedances, no further qualification is required.

Continuing Calibration

The criteria for frequency and percent differences (%Ds) as compared to the mean calibration factors calculated from the initial calibrations were met with the following exceptions:

Date & Time of Analysis	Instr.	Compound	%D	Qualifier Non-detect
5/20/96 0748PM	PE	HMX	-43.5	UJ
		2-nitrotoluene	49	None
		4-nitrotoluene	40	None
5/21/96 1256AM	PE	HMX	-47	UJ
5/21/96 12:15/12:39PM	PE	HMX	-51.1	UJ
		RDX	60.2	None
		2,4-dinitrotoluene	103	None
		tetryl	32.7	None
		2-amino-4,6-dinitrobenzene	41.4	None
		4-amino-2,6-dinitrobenzene	47.9	None
6/20/96 0553PM	PE	HMX	128	None
		RDX	-30	UJ

The non-detects for compounds with response factors indicating higher sensitivity when compared with the initial calibration responses were not qualified. HMX and RDX results were already flagged due to the initial calibration or holding time criteria, no further qualification is required.

Quantitation Limits - Acceptable

The sample analyses met the method required quantitation limits (QLs). The reported QLs were adjusted for sample size and percent moisture.

Blanks - Acceptable

All blanks met the criteria for frequency of analysis. None of the target compounds were detected in the method blanks.

Surrogates - Not Applicable

Surrogates were not added to the samples and QC samples.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Samples 96152363, 96152371 and 96152375 were used for MS/MSD analyses. Due to the restrictions on the amount of sample, only the matrix spike analysis was performed for the water sample, 96152375. The frequency of analysis and technical acceptance criteria were met for all analyses with these exceptions:

- QC samples 96152363 - HMX was not recovered ; 12% RDX recovered in MSD; 241% TNB recovered in MSD.
- QC samples 96152371 - low recoveries for tetryl (36% and 28% for MS and MSD, respectively).
- QC sample 96152375 - tetryl not recovered; low recoveries for 2-nitrotoluene, 4-nitrotoluene and 3-nitrotoluene (31%, 41% and 18%, respectively).

Due to possible low bias, HMX in all samples were qualified as unusable, "R"; tetryl, a very unstable compound, was qualified as estimated, "UJ", in soil samples and unusable, "R", in the associated water sample. All of the other compounds listed above were already qualified based on the previously discussed QC parameters, no further qualification is required on this basis.

Compound Identification

All of the detected target compounds were preliminarily confirmed using the channel B responses. Final check was done by the full UV spectral scan. A secondary column confirmation was not performed.

There were no transcription or calculation errors observed between the raw data and the reported results.

Overall Assessment

The samples were analyzed in accordance with the method specifications with a few minor deviations. The most restrictive qualifier was applied to the results, in cases where more than one qualifications are needed. Data results are acceptable as qualified and can be used for all purposes.

Table 1- Holding Time Summary

Sample No.	Matrix	Collection Date	VTSR*	Extraction	Munitions Analysis
96152351	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152352	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152353	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152354	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152355	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152356	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152357	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152358	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152359	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152360	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152362	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152363	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152364	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152365	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152366	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152367	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152368	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152369	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152371	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152372	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152373	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152374	water	04/10/96	04/12/96	04/15/96	06/06/96
96152375	water	04/10/96	04/12/96	04/15/96	06/06/96

* VTSR - Verified Time of Sample Receipt

DATA QUALIFIERS

- U - The analyte was not detected at or above the reported result.
- J - The analyte was positively identified. The associated numerical result is an estimate.
- R - The data are unusable for all purposes.
- N - There is evidence the analyte is present in this sample.
- NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.
- UJ - The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

Sample: 96152351
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 11.4 (g)(mL)
 % solids: 70.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	2.50	uA
RDX	121824	20	100	25	0.63	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	0.63	uJ
1,3-DINITROBENZENE	99650	20	100	25	0.63	u
NITROBENZENE	98953	20	100	25	0.63	uJ
TETRYL	479458	20	100	25	0.63	u
2-amino,4,6,-DNB	35572782	20	100	25	0.63	uJ
4-amino,2,6,-DNB	1946510	20	100	1025	0.25	u .63
2,4,6-TRINITROTOLUEN	118967	20	100	1025	0.25	uJ .63
2,4-DINITROTOLUENE	121142	20	100	1025	0.25	u .63
2,6-DINITROTOLUENE	606202	20	100	1025	0.25	u .63
2-NITROTOLUENE	88722	20	100	1025	0.25	u .63
4-NITROTOLUENE	99990	20	100	1025	0.25	uJ .63
3-NITROTOLUENE	99081	20	100	1025	0.25	uJ .63
=====	=====	=====	=====	=====	=====	=====

[Handwritten signature]
 6/16/96

Sample: 96152352
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.82 (g)(mL)
 % solids: 39.1 %

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	8.79 u	u
RDX	121824	20	100	25	2.20 u	u
1,3,5-TRINITROBENZEN	99354	20	100	25	2.20 u	u
1,3-DINITROBENZENE	99650	20	100	25	2.20 u	u
NITROBENZENE	98953	20	100	25	2.20 u	u
TETRYL	479458	20	100	25	2.20 u	u
2-amino,4,6,-DNB	35572782	20	100	25	2.20 u	u
4-amino,2,6,-DNB	1946510	20	100	25	2.20 u	u
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.88 u	2.20
2,4-DINITROTOLUENE	121142	20	100	25	0.88 u	2.20
2,6-DINITROTOLUENE	606202	20	100	25	0.88 u	2.20
2-NITROTOLUENE	88722	20	100	25	0.88 u	2.20
4-NITROTOLUENE	99990	20	100	25	0.88 u	2.20
3-NITROTOLUENE	99081	20	100	25	0.88 u	2.20
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/15/96

Sample: 96152353
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.33 (g)(mL)
 % solids: 54.0%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.95 uR	
RDX	121824	20	100	25	1.74 uJ	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.74 uJ	
1,3-DINITROBENZENE	99650	20	100	25	1.74 u	
NITROBENZENE	98953	20	100	25	1.74 uJ	
TETRYL	479458	20	100	25	1.74 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.74 uJ	
4-amino,2,6,-DNB	1946510	20	100	25	0.69 u	1.74
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.69 uJ	1.74
2,4-DINITROTOLUENE	121142	20	100	25	0.69 u	1.74
2,6-DINITROTOLUENE	606202	20	100	25	0.69 u	1.74
2-NITROTOLUENE	88722	20	100	25	0.69 u	1.74
4-NITROTOLUENE	99990	20	100	25	0.69 uJ	1.74
3-NITROTOLUENE	99081	20	100	25	0.69 uJ	1.74
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 6/16/96

Sample: 96152354
Method: 8330
Project: Camp Adair
Instrument: Perkin
Elmer
Detector: UV 255nm
280nm

Date: 25-Jun-96
Collected : 9-Apr-96
Received : 11-Apr-96
Source :

Mass (g): 5.42 (g)(mL)
% solids: 65.6%

Extracted: 23-Apr-96
Analyzed: 20-May-96
Reviewed:

Extractor: S.Reimer
Analyst: S.Reimer
Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.63 <i>μR</i>	
RDX	121824	20	100	25	1.41 <i>uJ</i>	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.41 <i>uJ</i>	
1,3-DINITROBENZENE	99650	20	100	25	1.41 <i>uJ</i>	
NITROBENZENE	98953	20	100	25	1.41 <i>u</i>	
TETRYL	479458	20	100	25	1.41 <i>uJ</i>	
2-amino,4,6,-DNB	35572782	20	100	25	1.41 <i>u</i>	
4-amino,2,6,-DNB	1946510	20	100	25	1.41 <i>uJ</i>	
2,4,6-TRINITROTOLUEN	118967	20	100	2510	0.56 <i>u</i>	1.41
2,4-DINITROTOLUENE	121142	20	100	2510	0.56 <i>uJ</i>	1.41
2,6-DINITROTOLUENE	606202	20	100	2510	0.56 <i>u</i>	1.41
2-NITROTOLUENE	88722	20	100	2510	0.56 <i>u</i>	1.41
4-NITROTOLUENE	99990	20	100	2510	0.56 <i>u</i>	1.41
3-NITROTOLUENE	99081	20	100	2510	0.56 <i>uJ</i>	1.41
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials
5/16/96

Sample: 96152355
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.27 (g)(mL)
 % solids: 63.5%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S. Reimer
 Analyst: S. Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.02	uJ
RDX	121824	20	100	25	1.26	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	1.26	uJ
1,3-DINITROBENZENE	99650	20	100	25	1.26	u
NITROBENZENE	98953	20	100	25	1.26	uJ
TETRYL	479458	20	100	25	1.26	u
2-amino,4,6,-DNB	35572782	20	100	25	1.26	uJ
4-amino,2,6,-DNB	1946510	20	100	25	0.50	u 1.26
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.50	uJ 1.26
2,4-DINITROTOLUENE	121142	20	100	25	0.50	u 1.26
2,6-DINITROTOLUENE	606202	20	100	25	0.50	u 1.26
2-NITROTOLUENE	88722	20	100	25	0.50	u 1.26
4-NITROTOLUENE	99990	20	100	25	0.50	uJ 1.26
3-NITROTOLUENE	99081	20	100	25	0.50	uJ 1.26
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials

Sample: 96152356
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.34 (g)(mL)
 % solids: 81.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.62	AR
RDX	121824	20	100	25	1.15	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	1.15	uJ
1,3-DINITROBENZENE	99650	20	100	25	1.15	uJ
NITROBENZENE	98953	20	100	25	1.15	u
TETRYL	479458	20	100	25	1.15	uJ
2-amino,4,6,-DNB	35572782	20	100	25	1.15	u
4-amino,2,6,-DNB	1946510	20	100	25	1.15	uJ
2,4,6-TRINITROTOLUEN	118967	20	100	2510	0.46	u 1.15
2,4-DINITROTOLUENE	121142	20	100	2510	0.46	uJ 1.15
2,6-DINITROTOLUENE	606202	20	100	2510	0.46	u 1.15
2-NITROTOLUENE	88722	20	100	2510	0.46	u 1.15
4-NITROTOLUENE	99990	20	100	2510	0.46	u 1.15
3-NITROTOLUENE	99081	20	100	2510	0.46	uJ 1.15
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials

Sample: 96152357
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.27 (g)(mL)
 % solids: 71.9%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.44	u J
RDX	121824	20	100	25	1.11	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.11	u J
1,3-DINITROBENZENE	99650	20	100	25	1.11	u
NITROBENZENE	98953	20	100	25	1.11	u J
TETRYL	479458	20	100	25	1.11	u
2-amino,4,6,-DNB	35572782	20	100	25	1.11	u J
4-amino,2,6,-DNB	1946510	20	100	25	0.44	u 1.11
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.44	u J 1.11
2,4-DINITROTOLUENE	121142	20	100	25	0.44	u 1.11
2,6-DINITROTOLUENE	606202	20	100	25	0.44	u 1.11
2-NITROTOLUENE	88722	20	100	25	0.44	u 1.11
4-NITROTOLUENE	99990	20	100	25	0.44	u J 1.11
3-NITROTOLUENE	99081	20	100	25	0.44	u J 1.11
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/15/96

Sample: 96152358
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.56 (g)(mL)
 % solids: 71.4%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.27 <i>u J</i>	
RDX	121824	20	100	25	1.07 <i>u J</i>	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.07 <i>u J</i>	
1,3-DINITROBENZENE	99650	20	100	25	1.07 <i>u J</i>	
NITROBENZENE	98953	20	100	25	1.07 <i>u</i>	
TETRYL	479458	20	100	25	1.07 <i>u J</i>	
2-amino,4,6,-DNB	35572782	20	100	25	1.07 <i>u</i>	
4-amino,2,6,-DNB	1946510	20	100	25	1.07 <i>u J</i>	
2,4,6-TRINITROTOLUEN	118967	20	100	25 <i>10</i>	0.43 <i>u</i>	1.07
2,4-DINITROTOLUENE	121142	20	100	25 <i>10</i>	0.43 <i>u J</i>	1.07
2,6-DINITROTOLUENE	606202	20	100	25 <i>10</i>	0.43 <i>u</i>	1.07
2-NITROTOLUENE	88722	20	100	25 <i>10</i>	0.43 <i>u</i>	1.07
4-NITROTOLUENE	99990	20	100	25 <i>10</i>	0.43 <i>u</i>	1.07
3-NITROTOLUENE	99081	20	100	25 <i>10</i>	0.43 <i>u J</i>	1.07
=====	=====	=====	=====	=====	=====	=====

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Sample: 96152359
Method: 8330
Project: Camp Adair
Instrument: Perkin
Elmer
Detector: UV 255nm
280nm

Date: 25-Jun-96
Collected : 9-Apr-96
Received : 11-Apr-96
Source :

Mass (g): 5.72 (g)(mL)
% solids: 67.8%

Extracted: 23-Apr-96
Analyzed: 20-May-96
Reviewed:

Extractor: S.Reimer
Analyst: S.Reimer
Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.16	✓ R
RDX	121824	20	100	25	1.29	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.29	u J
1,3-DINITROBENZENE	99650	20	100	25	1.29	u J
NITROBENZENE	98953	20	100	25	1.29	u
TETRYL	479458	20	100	25	1.29	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.29	u
4-amino,2,6,-DNB	1946510	20	100	25	1.29	u J
2,4,6-TRINITROTOLUEN	118967	20	100	2510	0.52	u 1.29
2,4-DINITROTOLUENE	121142	20	100	2510	0.52	u J 1.29
2,6-DINITROTOLUENE	606202	20	100	2510	0.52	u 1.29
2-NITROTOLUENE	88722	20	100	2510	0.52	u 1.29
4-NITROTOLUENE	99990	20	100	2510	0.52	u 1.29
3-NITROTOLUENE	99081	20	100	2510	0.52	u J 1.29
=====	=====	=====	=====	=====	=====	=====

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7/11/96

Sample: 96152360
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.53 (g)(mL)
 % solids: 56.5%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.42	u J
RDX	121824	20	100	25	1.36	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.36	u J
1,3-DINITROBENZENE	99650	20	100	25	1.36	u J
NITROBENZENE	98953	20	100	25	1.36	u
TETRYL	479458	20	100	25	1.36	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.36	u
4-amino,2,6,-DNB	1946510	20	100	25	1.36	u J
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.54	u 1.36
2,4-DINITROTOLUENE	121142	20	100	25	0.54	u J 1.36
2,6-DINITROTOLUENE	606202	20	100	25	0.54	u 1.36
2-NITROTOLUENE	88722	20	100	25	0.54	u 1.36
4-NITROTOLUENE	99990	20	100	25	0.54	u 1.36
3-NITROTOLUENE	99081	20	100	25	0.54	u J 1.36
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/16/96

Sample: 96152362
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.25 (g)(mL)
 % solids: 60.8%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.26 u	u
RDX	121824	20	100	25	1.32 u	J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.32 u	J
1,3-DINITROBENZENE	99650	20	100	25	1.32 u	
NITROBENZENE	98953	20	100	25	1.32 u	J
TETRYL	479458	20	100	25	1.32 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.32 u	J
4-amino,2,6,-DNB	1946510	20	100	25	1.32 u	
2,4,6-TRINITROTOLUEN	118967	20	100	25-10	0.53 u	1.32
2,4-DINITROTOLUENE	121142	20	100	25-10	0.53 u	J 1.32
2,6-DINITROTOLUENE	606202	20	100	25-10	0.53 u	1.32
2-NITROTOLUENE	88722	20	100	25-10	0.53 u	1.32
4-NITROTOLUENE	99990	20	100	25-10	0.53 u	J 1.32
3-NITROTOLUENE	99081	20	100	25-10	0.53 u	J 1.32
=====	=====	=====	=====	=====	=====	=====

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 6/21/96

Sample: 96152363
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.10 (g)(mL)
 % solids: 62.4%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.28	uJ
RDX	121824	20	100	25	1.57	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	1.57	uJ
1,3-DINITROBENZENE	99650	20	100	25	1.57	uJ
NITROBENZENE	98953	20	100	25	1.57	u
TETRYL	479458	20	100	25	1.57	uJ
2-amino,4,6,-DNB	35572782	20	100	25	1.57	u
4-amino,2,6,-DNB	1946510	20	100	25	1.57	uJ
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.63	u 1.57
2,4-DINITROTOLUENE	121142	20	100	25	0.63	uJ 1.57
2,6-DINITROTOLUENE	606202	20	100	25	0.63	u 1.57
2-NITROTOLUENE	88722	20	100	25	0.63	u 1.57
4-NITROTOLUENE	99990	20	100	25	0.63	u 1.57
3-NITROTOLUENE	99081	20	100	25	0.63	uJ 1.57
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/16/96

Sample: 96152364
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.09 (g)(mL)
 % solids: 38.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	10.31 u	
RDX	121824	20	100	25	2.58 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	2.58 u	
1,3-DINITROBENZENE	99650	20	100	25	2.58 u	
NITROBENZENE	98953	20	100	25	2.58 u	
TETRYL	479458	20	100	25	2.58 u	
2-amino,4,6,-DNB	35572782	20	100	25	2.58 u	
4-amino,2,6,-DNB	1946510	20	100	25	2.58 u	
2,4,6-TRINITROTOLUEN	118967	20	100	25	1.03 u	2.58
2,4-DINITROTOLUENE	121142	20	100	25	1.03 u	2.58
2,6-DINITROTOLUENE	606202	20	100	25	1.03 u	2.58
2-NITROTOLUENE	88722	20	100	25	1.03 u	2.58
4-NITROTOLUENE	99990	20	100	25	1.03 u	2.58
3-NITROTOLUENE	99081	20	100	25	1.03 u	2.58
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date 7/10/96

Sample: 96152365
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.63 (g)(mL)
 % solids: 65.2%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.45	u A
RDX	121824	20	100	25	1.36	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.36	u J
1,3-DINITROBENZENE	99650	20	100	25	1.36	u J
NITROBENZENE	98953	20	100	25	1.36	u
TETRYL	479458	20	100	25	1.36	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.36	u
4-amino,2,6,-DNB	1946510	20	100	25	1.36	u J
2,4,6-TRINITROTOLUEN	118967	20	100	25 10	0.54	u 1.36
2,4-DINITROTOLUENE	121142	20	100	25 10	0.54	u J 1.36
2,6-DINITROTOLUENE	606202	20	100	25 10	0.54	u 1.36
2-NITROTOLUENE	88722	20	100	25 10	0.54	u 1.36
4-NITROTOLUENE	99990	20	100	25 10	0.54	u 1.36
3-NITROTOLUENE	99081	20	100	25 10	0.54	u J 1.36
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/16/96

Sample: 95152366
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 7.77 (g)(mL)
 % solids: 70.8%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	3.64	u J
RDX	121824	20	100	25	0.91	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	0.91	u J
1,3-DINITROBENZENE	99650	20	100	25	0.91	u
NITROBENZENE	98953	20	100	25	0.91	u J
TETRYL	479458	20	100	25	0.91	u
2-amino,4,6,-DNB	35572782	20	100	25	0.91	u J
4-amino,2,6,-DNB	1946510	20	100	25	0.36	u J
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.36	u J
2,4-DINITROTOLUENE	121142	20	100	25	0.36	u J
2,6-DINITROTOLUENE	606202	20	100	25	0.36	u J
2-NITROTOLUENE	88722	20	100	25	0.36	u J
4-NITROTOLUENE	99990	20	100	25	0.36	u J
3-NITROTOLUENE	99081	20	100	25	0.36	u J
=====	=====	=====	=====	=====	=====	=====

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 4/27/96

Sample: 96152367
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.25 (g)(mL)
 % solids: 56.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.79	u J
RDX	121824	20	100	25	1.70	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.70	u J
1,3-DINITROBENZENE	99650	20	100	25	1.70	u J
NITROBENZENE	98953	20	100	25	1.70	u
TETRYL	479458	20	100	25	1.70	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.70	u
4-amino,2,6,-DNB	1946510	20	100	25	1.70	u J
2,4,6-TRINITROTOLUEN	118967	20	100	25 10	0.68	u 1.70
2,4-DINITROTOLUENE	121142	20	100	25 10	0.68	u 1.70
2,6-DINITROTOLUENE	606202	20	100	25 10	0.68	u 1.70
2-NITROTOLUENE	88722	20	100	25 10	0.68	u 1.70
4-NITROTOLUENE	99990	20	100	25 10	0.68	u 1.70
3-NITROTOLUENE	99081	20	100	25 10	0.68	u 1.70
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 7/16/96

Sample: 96152368
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 7.71 (g)(mL)
 % solids: 48.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.39 u	A
RDX	121824	20	100	25	1.35 u	J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.35 u	J
1,3-DINITROBENZENE	99650	20	100	25	1.35 u	
NITROBENZENE	98953	20	100	25	1.35 u	J
TETRYL	479458	20	100	25	1.35 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.35 u	J
4-amino,2,6,-DNB	1946510	20	100	25	1.35 u	J
2,4,6-TRINITROTOLUEN	118967	20	100	25-10	0.54 u	1.35-
2,4-DINITROTOLUENE	121142	20	100	25-10	0.54 u	1.35-
2,6-DINITROTOLUENE	606202	20	100	25-10	0.54 u	1.35-
2-NITROTOLUENE	88722	20	100	25-10	0.54 u	1.35-
4-NITROTOLUENE	99990	20	100	25-10	0.54 u	1.35-
3-NITROTOLUENE	99081	20	100	25-10	0.54 u	1.35-
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials
 7/15/96

Sample: 96152369
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.60 (g)(mL)
 % solids: 57.1 %

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.25	1.56
RDX	121824	20	100	25	1.56	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	1.56	uJ
1,3-DINITROBENZENE	99650	20	100	25	1.56	uJ
NITROBENZENE	98953	20	100	25	1.56	u
TETRYL	479458	20	100	25	1.56	uJ
2-amino,4,6,-DNB	35572782	20	100	25	1.56	u
4-amino,2,6,-DNB	1946510	20	100	25	1.56	uJ
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.63	u 1.56
2,4-DINITROTOLUENE	121142	20	100	25	0.63	uJ 1.56
2,6-DINITROTOLUENE	606202	20	100	25	0.63	u 1.56
2-NITROTOLUENE	88722	20	100	25	0.63	u 1.56
4-NITROTOLUENE	99990	20	100	25	0.63	u 1.56
3-NITROTOLUENE	99081	20	100	25	0.63	uJ 1.56
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials

Sample: 96152371
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 9.59 (g)(mL)
 % solids: 60.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	3.47	u J
RDX	121824	20	100	25	0.87	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	0.87	u J
1,3-DINITROBENZENE	99650	20	100	25	0.87	u
NITROBENZENE	98953	20	100	25	0.87	u J
TETRYL	479458	20	100	25	0.87	u
2-amino,4,6,-DNB	35572782	20	100	25	0.87	u J
4-amino,2,6,-DNB	1946510	20	100	25	0.35	u , 87
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.35	u J , 87
2,4-DINITROTOLUENE	121142	20	100	25	0.35	u , 87
2,6-DINITROTOLUENE	606202	20	100	25	0.35	u , 87
2-NITROTOLUENE	88722	20	100	25	0.35	u , 87
4-NITROTOLUENE	99990	20	100	25	0.35	u J , 87
3-NITROTOLUENE	99081	20	100	25	0.35	u J , 87
=====	=====	=====	=====	=====	=====	=====

Handwritten signature

Sample: 96152372
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 6.71 (g)(mL)
 % solids: 49.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.07	u J
RDX	121824	20	100	25	1.52	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.52	u J
1,3-DINITROBENZENE	99650	20	100	25	1.52	u J
NITROBENZENE	98953	20	100	25	1.52	u
TETRYL	479458	20	100	25	1.52	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.52	u
4-amino,2,6,-DNB	1946510	20	100	25	1.52	u J
2,4,6-TRINITROTOLUEN	118967	20	100	2510	0.61	u 1.52
2,4-DINITROTOLUENE	121142	20	100	2510	0.61	u J 1.52
2,6-DINITROTOLUENE	606202	20	100	2510	0.61	u 1.52
2-NITROTOLUENE	88722	20	100	2510	0.61	u 1.52
4-NITROTOLUENE	99990	20	100	2510	0.61	u 1.52
3-NITROTOLUENE	99081	20	100	2510	0.61	u J 1.52
=====	=====	=====	=====	=====	=====	=====

[Handwritten signature]

Sample: 96152373
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.43 (g)(mL)
 % solids: 70.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S. Reimer
 Analyst: S. Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.25	uJ
RDX	121824	20	100	25	1.31	uJ
1,3,5-TRINITROBENZEN	99354	20	100	25	1.31	uJ
1,3-DINITROBENZENE	99650	20	100	25	1.31	u
NITROBENZENE	98953	20	100	25	1.31	uJ
TETRYL	479458	20	100	25	1.31	u
2-amino,4,6,-DNB	35572782	20	100	25	1.31	uJ
4-amino,2,6,-DNB	1946510	20	100	25	0.53	u 1.31
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.53	uJ 1.31
2,4-DINITROTOLUENE	121142	20	100	25	0.53	u 1.31
2,6-DINITROTOLUENE	606202	20	100	25	0.53	u 1.31
2-NITROTOLUENE	88722	20	100	25	0.53	u 1.31
4-NITROTOLUENE	99990	20	100	25	0.53	uJ 1.31
3-NITROTOLUENE	99081	20	100	25	0.53	uJ 1.31
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date: 2/10/96

Sample: 96152374
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :
 Vol.: 970.0 (mL)
 1

Extracted: 15-Apr-96
 Analyzed: 6-Jun-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	21	u R
RDX	121824	20	100	25	5	u
1,3,5-TRINITROBENZEN	99354	20	100	25	5	u
1,3-DINITROBENZENE	99650	20	100	25	5	u
NITROBENZENE	98953	20	100	25	5	u
TETRYL	479458	20	100	25	5	u
2-amino,4,6,-DNB	35572782	20	100	25	5	u
4-amino,2,6,-DNB	1946510	20	100	25	5	u
2,4,6-TRINITROTOLUEN	118967	20	100	2510	2	u 15
2,4-DINITROTOLUENE	121142	20	100	2510	2	u 15
2,6-DINITROTOLUENE	606202	20	100	2510	2	u 15
2-NITROTOLUENE	88722	20	100	2510	2	u 15
4-NITROTOLUENE	99990	20	100	2510	2	u 15
3-NITROTOLUENE	99081	20	100	2510	2	u 15
=====	=====	=====	=====	=====	=====	=====

[Handwritten signature]

Sample: 96152375
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Vol.: 470.0 (mL)
 1

Extracted: 15-Apr-96
 Analyzed: 6-Jun-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	43	us R
RDX	121824	20	100	25	11	u b
1,3,5-TRINITROBENZEN	99354	20	100	25	11	u
1,3-DINITROBENZENE	99650	20	100	25	11	u
NITROBENZENE	98953	20	100	25	11	u R
TETRYL	479458	20	100	25	11	u
2-amino,4,6,-DNB	35572782	20	100	25	11	u
4-amino,2,6,-DNB	1946510	20	100	25	11	u
2,4,6-TRINITROTOLUEN	118967	20	100	2510	4	u //
2,4-DINITROTOLUENE	121142	20	100	2510	4	u //
2,6-DINITROTOLUENE	606202	20	100	2510	4	u //
2-NITROTOLUENE	88722	20	100	2510	4	u //
4-NITROTOLUENE	99990	20	100	2510	4	u //
3-NITROTOLUENE	99081	20	100	2510	4	u //
=====	=====	=====	=====	=====	=====	=====

[Handwritten signature]

Sample: 96152363u *main file*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.32 (g)(mL)
 % solids: 62.3%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	6.03 u	not recovered
RDX	121824	20	100	58	3.48	115%
1,3,5-TRINITROBENZEN	99354	20	100	46	2.78	92%
1,3-DINITROBENZENE	99650	20	100	36	2.15	71%
NITROBENZENE	98953	20	100	36	2.15	71%
TETRYL	479458	20	100	25	1.51 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.51 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.51 u	
2,4,6-TRINITROTOLUEN	118967	20	100	39	2.35	78%
2,4-DINITROTOLUENE	121142	20	100	38	2.31	76%
2,6-DINITROTOLUENE	606202	20	100	2510	0.60 u	1.51
2-NITROTOLUENE	88722	20	100	2510	0.60 u	1.51
4-NITROTOLUENE	99990	20	100	2510	0.60 u	1.51
3-NITROTOLUENE	99081	20	100	2510	0.60 u	1.51
=====	=====	=====	=====	=====	=====	=====

Signature
 8/1/96

Sample: 96152363v *matrix spike dup*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.53 (g)(mL)
 % solids: 62.3%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.81 u	not recovered
RDX	121824	20	100	6	0.34	12%
1,3,5-TRINITROBENZEN	99354	20	100	121	7.00	241%
1,3-DINITROBENZENE	99650	20	100	27	1.54	53%
NITROBENZENE	98953	20	100	26	1.50	52%
TETRYL	479458	20	100	25	1.45 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.45 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.45 u	54%
2,4,6-TRINITROTOLUEN	118967	20	100	27	1.56	52%
2,4-DINITROTOLUENE	121142	20	100	26	1.52	
2,6-DINITROTOLUENE	606202	20	100	25	0.58 u	1.45
2-NITROTOLUENE	88722	20	100	25	0.58 u	1.45
4-NITROTOLUENE	99990	20	100	25	0.58 u	1.45
3-NITROTOLUENE	99081	20	100	25	0.58 u	1.45
=====	=====	=====	=====	=====	=====	=====

8/25/96

Sample: 96152371w *matrix spike*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm
 Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 7.11 (g)(mL)
 % solids: 60.1%

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.68 u	
RDX	121824	20	100	25	1.17 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.17 u	
1,3-DINITROBENZENE	99650	20	100	25	1.17 u	
NITROBENZENE	98953	20	100	25	1.17 u	
TETRYL	479458	20	100	18	0.84	36%
2-amino,4,6,-DNB	35572782	20	100	42	1.97	84%
4-amino,2,6,-DNB	1946510	20	100	52	2.43	104%
2,4,6-TRINITROTOLUEN	118967	20	100	25 10	0.47 u	1.17
2,4-DINITROTOLUENE	121142	20	100	25 10	0.47 u	1.17
2,6-DINITROTOLUENE	606202	20	100	57	2.67	114%
2-NITROTOLUENE	88722	20	100	25 10	0.47 u	1.17
4-NITROTOLUENE	99990	20	100	42	1.97 1.97	84%
3-NITROTOLUENE	99081	20	100	25 10	0.47 u	1.17
=====	=====	=====	=====	=====	=====	=====

Signature
6/25/96

Sample: 96152371x *Matrix spike dup*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :
 Mass (g): 6.56 (g)(mL)
 % solids: 60.1%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	5.07 u	
RDX	121824	20	100	25	1.27 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.27 u	
1,3-DINITROBENZENE	99650	20	100	25	1.27 u	
NITROBENZENE	98953	20	100	25	1.27 u	28%
TETRYL	479458	20	100	14	0.71	104%
2-amino,4,6,-DNB	35572782	20	100	52	2.64	110%
4-amino,2,6,-DNB	1946510	20	100	55	2.79	
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.51 u	1, 2, 7
2,4-DINITROTOLUENE	121142	20	100	25	0.51 u	1, 2, 7
2,6-DINITROTOLUENE	606202	20	100	49	2.49	98%
2-NITROTOLUENE	88722	20	100	44	2.23	88%
4-NITROTOLUENE	99990	20	100	47	2.38	94%
3-NITROTOLUENE	99081	20	100	46	2.33	92%
=====	=====	=====	=====	=====	=====	=====

Signature

Sample: 96152375w *mythos spike*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Vol.: 410.0 (mL)
 1

Extracted: 15-Apr-96
 Analyzed: 6-Jun-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	49 u	
RDX	121824	20	100	25	12 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	12 u	
1,3-DINITROBENZENE	99650	20	100	25	12 u	
NITROBENZENE	98953	20	100	25	12 u	
TETRYL	479458	20	100	25	12 u	not recovered ✓
2-amino,4,6,-DNB	35572782	20	100	126	61	126%
4-amino,2,6,-DNB	1946510	20	100	124	60	124%
2,4,6-TRINITROTOLUEN	118967	20	100	2510	5 u	12
2,4-DINITROTOLUENE	121142	20	100	2510 SR	5 u	12
2,6-DINITROTOLUENE	606202	20	100	91	45	91%
2-NITROTOLUENE	88722	20	100	31	15	31% ✓
4-NITROTOLUENE	99990	20	100	41	20	41% ✓
3-NITROTOLUENE	99081	20	100	18	9	18% ✓
=====	=====	=====	=====	=====	=====	=====

[Signature]

Sample: BS6114 *Blank*
Method: 8330
Project: Camp Adair
Instrument: Perkin
Elmer
Detector: UV 255nm
280nm

Date: 25-Jun-96
Collected : 9-Apr-96
Received : 11-Apr-96
Source :

Mass (g): 5.0 (g)(mL)
% solids: 100.0%

Extracted: 23-Apr-96
Analyzed: 20-May-96
Reviewed:

Extractor: S.Reimer
Analyst: S.Reimer
Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.00 u	
RDX	121824	20	100	25	1.00 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.00 u	
1,3-DINITROBENZENE	99650	20	100	25	1.00 u	
NITROBENZENE	98953	20	100	25	1.00 u	
TETRYL	479458	20	100	25	1.00 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.00 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.00 u	
2,4,6-TRINITROTOLUEN	118967	20	100	25 10	0.40 u	1.00
2,4-DINITROTOLUENE	121142	20	100	25 10	0.40 u	1.00
2,6-DINITROTOLUENE	606202	20	100	25 10	0.40 u	1.00
2-NITROTOLUENE	88722	20	100	25 10	0.40 u	1.00
4-NITROTOLUENE	99990	20	100	25 10	0.40 u	1.00
3-NITROTOLUENE	99081	20	100	25 10	0.40 u	1.00
=====	=====	=====	=====	=====	=====	=====

mg/kg

Sample: BS6114a *Blank*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.0 (g)(mL)
 % solids: 100.0%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.00 u	
RDX	121824	20	100	25	1.00 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.00 u	
1,3-DINITROBENZENE	99650	20	100	25	1.00 u	
NITROBENZENE	98953	20	100	25	1.00 u	
TETRYL	479458	20	100	25	1.00 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.00 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.00 u	
2,4,6-TRINITROTOLUEN	118967	20	100	2510	0.40 u	1.00
2,4-DINITROTOLUENE	121142	20	100	2510	0.40 u	1.00
2,6-DINITROTOLUENE	606202	20	100	2510	0.40 u	1.00
2-NITROTOLUENE	88722	20	100	2510	0.40 u	1.00
4-NITROTOLUENE	99990	20	100	2510	0.40 u	1.00
3-NITROTOLUENE	99081	20	100	2510	0.40 u	1.00
=====	=====	=====	=====	=====	=====	=====

Signature

Sample: BS6114b *Blank*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm

Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :

Mass (g): 5.0 (g)(mL)
 % solids: 100.0%

Extracted: 23-Apr-96
 Analyzed: 20-May-96
 Reviewed:

Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	4.00 u	
RDX	121824	20	100	25	1.00 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	1.00 u	
1,3-DINITROBENZENE	99650	20	100	25	1.00 u	
NITROBENZENE	98953	20	100	25	1.00 u	
TETRYL	479458	20	100	25	1.00 u	
2-amino,4,6,-DNB	35572782	20	100	25	1.00 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.00 u	
2,4,6-TRINITROTOLUEN	118967	20	100	25	0.40 u	1.00
2,4-DINITROTOLUENE	121142	20	100	25	0.40 u	1.00
2,6-DINITROTOLUENE	606202	20	100	25	0.40 u	1.00
2-NITROTOLUENE	88722	20	100	25	0.40 u	1.00
4-NITROTOLUENE	99990	20	100	25	0.40 u	1.00
3-NITROTOLUENE	99081	20	100	25	0.40 u	1.00
=====	=====	=====	=====	=====	=====	=====

Handwritten signature and date 7/2/96

Sample: BW6113 *Blank (H₂O)*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm
 Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :
 Vol.: 1000.0 (mL)
 1
 Extracted: 15-Apr-96
 Analyzed: 6-Jun-96
 Reviewed:
 Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

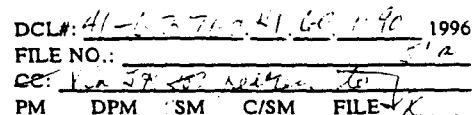
TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	20 u	
RDX	121824	20	100	25	5 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	5 u	
1,3-DINITROBENZENE	99650	20	100	25	5 u	
NITROBENZENE	98953	20	100	25	5 u	
TETRYL	479458	20	100	25	5 u	
2-amino,4,6,-DNB	35572782	20	100	25	5 u	
4-amino,2,6,-DNB	1946510	20	100	25	5 u	
2,4,6-TRINITROTOLUEN	118967	20	100	2510	2 u	5.9
2,4-DINITROTOLUENE	121142	20	100	2510	2 u	5.0
2,6-DINITROTOLUENE	606202	20	100	2510	2 u	5
2-NITROTOLUENE	88722	20	100	2510	2 u	5
4-NITROTOLUENE	99990	20	100	2510	2 u	5
3-NITROTOLUENE	99081	20	100	2510	2 u	5
=====	=====	=====	=====	=====	=====	=====

8/14/96

Sample: BW6106 *Hand (water)*
 Method: 8330
 Project: Camp Adair
 Instrument: Perkin
 Elmer
 Detector: UV 255nm
 280nm
 Date: 25-Jun-96
 Collected : 9-Apr-96
 Received : 11-Apr-96
 Source :
 Vol.: 500.0 (mL)
 1
 Extracted: 15-Apr-96
 Analyzed: 6-Jun-96
 Reviewed:
 Extractor: S.Reimer
 Analyst: S.Reimer
 Reviewed by:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
=====	=====	=====	=====	=====	=====	=====
HMX	2691410	20	100	100	40 u	
RDX	121824	20	100	25	10 u	
1,3,5-TRINITROBENZEN	99354	20	100	25	10 u	
1,3-DINITROBENZENE	99650	20	100	25	10 u	
NITROBENZENE	98953	20	100	25	10 u	
TETRYL	479458	20	100	25	10 u	
2-amino,4,6,-DNB	35572782	20	100	25	10 u	
4-amino,2,6,-DNB	1946510	20	100	25	10 u	
2,4,6-TRINITROTOLUEN	118967	20	100	25 10	4 u	10
2,4-DINITROTOLUENE	121142	20	100	25 10	4 u	10
2,6-DINITROTOLUENE	606202	20	100	25 10	4 u	10
2-NITROTOLUENE	88722	20	100	25 10	4 u	10
4-NITROTOLUENE	99990	20	100	25 10	4 u	10
3-NITROTOLUENE	99081	20	100	25 10	4 u	10
=====	=====	=====	=====	=====	=====	=====

Handwritten signature/initials



Reply To
Attn Of: OEA-095

RECEIVED

May 2, 1996

MAY 16 1996

URS CONSULTANTS

MEMORANDUM

SUBJECT: Data Validation Report for Volatile Organic (VOA) and Semi-Volatile Organic (BNA) Analysis of Samples from Camp Adair Case: 24554 SDGs: JL893, JL895 and JL916

FROM: Gina Grepo-Grove, Chemist
Office of Environmental Assessment

TO: Mark Ader, SAM/WAM
Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 5 water samples collected from the above referenced site has been completed. The samples were analyzed for volatile and semi-volatile organic compounds in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis (OLMO3.2). The analyses were performed by Compuchem Environmental Corp. located at Research Triangle Park, NC. The following samples were reviewed in this report:

JL893	JL894	JL895	JL896	JL897
JL898	JL899	JL900	JL901	JL902
JL904	JL905	JL906	JL907	JL908
JL909	JL910	JL911	JL913	JL914
JL915	JL916	JL917	JL918	JL919
JL920				

Data Validation Summary

All of the sample analyses met the SOW technical requirements with the following exceptions:

Initial Calibration

The following target compounds exceeded the %RSD QC requirements:

Date & Time of Analysis	Instr.	Compound	%D	Qualifier Detect/ Non-detect
4/16/96 1329	F50054	methylene chloride	60.0	J/UJ
		acetone	43.6	J/UJ
		2-butanone	38.6	J/UJ
		2-hexanone	27.7	J/UJ
4/17/96 1845	F50054	4-methyl-2-pentanone	34.7	J/UJ
4/18/96 0643	F50054	2-butanone	33.9	J/None
		bromoform	27.6	J/None
		2-hexanone	35.0	J/None
4/17/96 1159	F50055	chloromethane	34.0	J/UJ
		bromoform	32.7	J/UJ
4/13/96 0048	F50056	chloroethane	43.0	J/UJ
		acetone	34.2	J/UJ
		2-butanone	36.9	J/UJ
		4-methyl-2-pentanone	32.6	J/UJ
		2-hexanone	51.3	J/UJ
4/18/96 0038	OWA02	2,2'-oxybis(1-chloropropane)	52.3	J/None
		2-nitroaniline	35.5	J/None
		2,4-dinitrophenol	42.3	J/UJ
4/19/96 1042	OWA02	2,2'-oxybis(1-chloropropane)	60.9	J/None
		2-nitroaniline	39.4	J/None
4/19/96 2011	OWA04	pentachlorophenol	27.6	J/UJ
4/22/96 0144	OWA04	pentachlorophenol	32.8	J/UJ

The compounds listed above were qualified accordingly in the associated samples. The non-detects for compounds with response factors indicating higher sensitivity when compared with the initial calibration response were not qualified.

JL897 was also flagged as a non-detect, "U".

Tentatively Identified Compounds (TICs)

TICs that were found in both the sample and the associated method blank(s) were qualified as unusable, "R". Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were also qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "JN", tentatively identified at an estimated concentration.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: OEA-095

May 2, 1996

MEMORANDUM

SUBJECT: Data Validation Report for Volatile Organic (VOA) and Semi-Volatile Organic (BNA) Analysis of Samples from Camp Adair Case: 24554 SDGs: JL893, JL895 and JL916

FROM: *[Signature]* Ginna Grepo-Grove, Chemist
Office of Environmental Assessment

TO: Mark Ader, SAM/WAM
Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 5 water samples collected from the above referenced site has been completed. The samples were analyzed for volatile and semi-volatile organic compounds in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis (OLMO3.2). The analyses were performed by Compuchem Environmental Corp. located at Research Triangle Park, NC. The following samples were reviewed in this report:

JL893	JL894	JL895	JL896	JL897
JL898	JL899	JL900	JL901	JL902
JL904	JL905	JL906	JL907	JL908
JL909	JL910	JL911	JL913	JL914
JL915	JL916	JL917	JL918	JL919
JL920				

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the CLP SOW for Organic Analysis (OLMO3.2) and the USEPA CLP National Functional Guidelines for Organic Data Review, 2/94.

The conclusions presented herein are based on the information provided for the review.



2. Initial Calibration

Three five-point initial calibration curves were performed for the volatile organic compounds (VOC) and surrogates. The percent relative standard deviations (%RSDs) ranged from 0.3 - 60.0%. Two initial calibration curves were performed for the semi-volatile organic analysis with %RSDs ranging from 0.0 - 35.7%. All of the target compounds for both VOA and BNA analyses had relative response factors (RRFs) that were ≥ 0.050 . The following target compounds exceeded the %RSD QC requirements:

Date of Analysis	Instr.	Compound	Qualifier Detects/Non-detects	%RSD
4/13/96	F50054	methylene chloride	J/UJ	97.1
		acetone	J/UJ	31.9
4/17/96	F50054	methylene chloride	J/UJ	30.9
		acetone	J/UJ	90.2
4/13/96	F50056	chloroethane	J/UJ	42.7
4/15/96	F50055	methylene chloride	J/UJ	33.0
		acetone	J/UJ	53.9
		2-butanone	J/UJ	39.4
		2-hexanone	J/UJ	28.9
4/15/96	OWA04	4-chloroaniline	J/UJ	35.7

The compounds listed above were qualified accordingly in the associated samples.

3. Continuing Calibration

Ten continuing calibration checks were analyzed and evaluated for both analyses. The minimum required RRFs were met for all target compounds and surrogates. The criteria for frequency and percent differences (%Ds) as compared to the mean calibration factors calculated from the initial calibrations were also met with the following exceptions:

4. GC/MS Performance Check - Acceptable

Ten analytical sequences were performed. All of the instrument performance checks used average scans with proper background subtractions and met the ion abundance criteria. All of the standards, samples and QC samples were analyzed within the 12-hour QC period. None of the results were qualified on this basis.

5. Quantitation Limits - Acceptable

The sample analyses met the contract required quantitation limits (CRQLs). The reported CRQLs were adjusted for sample size and percent moisture. Target compounds detected at concentrations less than the CRQLs were qualified as estimated, "J".

6. Blanks

All blanks met the criteria for frequency of analysis. The following target compounds were detected in the method blanks.

Blanks	Date/Time of Analysis	Compound (ppb)	Associated Samples
VELKD1	4/17/96 1931	methylene chloride (9) acetone (15) 1,1,2-Trichloroethane (1) bromoform (2) 1,1,2,2-Tetrachloroethane (3) styrene (1) xylene (total) (3)	JL897, JL896MS
VELKN1	4/16/96 1931	methylene chloride (5) acetone (11)	JL896, JL893, JL896MSD
VELKN2	4/18/96 0423	methylene chloride (5) acetone (5)	JL898, JL899
VELKN3	4/18/96 0720	methylene chloride (8) acetone (4)	JL901, JL913, JL894, JL900, JL902, JL908, JL910, JL911, JL914, JL915
VELKE4	4/18/96 1447	methylene chloride (20) acetone (8)	JL909, VHBLK1
VHBLKB7	4/18/96 1738	methylene chloride (5) acetone (8)	SDG: JL893
VELKG1	4/17/96 0225	methylene chloride (6)	JL895

qualified on the basis of internal standards.

10. Compound Identification - Acceptable

All of the detected target compounds and surrogates were within the retention time windows established from the initial calibration and met the USEPA spectral matching criteria.

There were no transcription or calculation errors observed between the raw data and the reported results.

11. Tentatively Identified Compounds (TICs)

Peaks that were detected in the samples at areas >10% of the internal standards and were not part of the target compound lists were identified as TICs. TICs that were found in both the sample and the associated method blank(s) were qualified as unusable, "R". Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were also qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "JN", tentatively identified at an estimated concentration.

12. Laboratory Contact

The laboratory was not contacted for this review.

13. Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. Data results are acceptable and can be used for all purposes.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796329

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096329B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 32

Date Analyzed: 04/16/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	15	U
74-83-9-----	Bromomethane	15	U
75-01-4-----	Vinyl Chloride	15	U
75-00-3-----	Chloroethane	15	U
75-09-2-----	Methylene Chloride	9	JB UJ
67-64-1-----	Acetone	13	JB UJ
75-15-0-----	Carbon Disulfide	15	U
75-35-4-----	1,1-Dichloroethene	15	U
75-34-3-----	1,1-Dichloroethane	15	U
540-59-0-----	1,2-Dichloroethene (total)	15	U
67-66-3-----	Chloroform	15	U
107-06-2-----	1,2-Dichloroethane	15	U
78-93-3-----	2-Butanone	15	UJ
71-55-6-----	1,1,1-Trichloroethane	15	U
56-23-5-----	Carbon Tetrachloride	15	U
75-27-4-----	Bromodichloromethane	15	U
78-87-5-----	1,2-Dichloropropane	15	U
10061-01-5-----	cis-1,3-Dichloropropene	15	U
79-01-6-----	Trichloroethene	15	U
124-48-1-----	Dibromochloromethane	15	U
79-00-5-----	1,1,2-Trichloroethane	15	U
71-43-2-----	Benzene	15	U
10061-02-6-----	trans-1,3-Dichloropropene	15	U
75-25-2-----	Bromoform	15	U
108-10-1-----	4-Methyl-2-Pentanone	15	U
591-78-6-----	2-Hexanone	15	UJ
127-18-4-----	Tetrachloroethene	15	U
79-34-5-----	1,1,2,2-Tetrachloroethane	15	U
108-88-3-----	Toluene	15	U
108-90-7-----	Chlorobenzene	15	U
100-41-4-----	Ethylbenzene	15	U
100-42-5-----	Styrene	15	U
1330-20-7-----	Xylene (Total)	15	U

FORM I VOA

OLM03.0

00024

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796329

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096329B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 32

Date Analyzed: 04/16/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.83	31	JB R
2.				
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FORM I VOA-TIC

OLM03.0
00025

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796329

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096329B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 29 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	460	U
111-44-4-----	bis(2-Chloroethyl) ether	460	U
95-57-8-----	2-Chlorophenol	460	U
541-73-1-----	1,3-Dichlorobenzene	460	U
106-46-7-----	1,4-Dichlorobenzene	460	U
95-50-1-----	1,2-Dichlorobenzene	460	U
95-48-7-----	2-Methylphenol	460	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	460	U
106-44-5-----	4-Methylphenol	460	U
621-64-7-----	N-Nitroso-di-n-propylamine	460	U
67-72-1-----	Hexachloroethane	460	U
98-95-3-----	Nitrobenzene	460	U
78-59-1-----	Isophorone	460	U
88-75-5-----	2-Nitrophenol	460	U
105-67-9-----	2,4-Dimethylphenol	460	U
111-91-1-----	bis(2-Chloroethoxy)methane	460	U
120-83-2-----	2,4-Dichlorophenol	460	U
120-82-1-----	1,2,4-Trichlorobenzene	460	U
91-20-3-----	Naphthalene	460	U
106-47-8-----	4-Chloroaniline	460	UJ
87-68-3-----	Hexachlorobutadiene	460	U
59-50-7-----	4-Chloro-3-methylphenol	460	U
91-57-6-----	2-Methylnaphthalene	460	U
77-47-4-----	Hexachlorocyclopentadiene	460	U
88-06-2-----	2,4,6-Trichlorophenol	460	U
95-95-4-----	2,4,5-Trichlorophenol	1200	U
91-58-7-----	2-Chloronaphthalene	460	U
88-74-4-----	2-Nitroaniline	1200	U
131-11-3-----	Dimethylphthalate	460	U
208-96-8-----	Acenaphthylene	460	U
606-20-2-----	2,6-Dinitrotoluene	460	U
99-09-2-----	3-Nitroaniline	1200	U
83-32-9-----	Acenaphthene	460	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796329

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096329B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 29 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1200	U
100-02-7-----	4-Nitrophenol	1200	U
132-64-9-----	Dibenzofuran	460	U
121-14-2-----	2,4-Dinitrotoluene	460	U
84-66-2-----	Diethylphthalate	460	U
7005-72-3-----	4-Chlorophenyl-phenylether	460	U
86-73-7-----	Fluorene	460	U
100-01-6-----	4-Nitroaniline	1200	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200	U
86-30-6-----	N-nitrosodiphenylamine (1)	460	U
101-55-3-----	4-Bromophenyl-phenylether	460	U
118-74-1-----	Hexachlorobenzene	460	U
87-86-5-----	Pentachlorophenol	1200	UJ
85-01-8-----	Phenanthrene	460	U
120-12-7-----	Anthracene	460	U
86-74-8-----	Carbazole	460	U
84-74-2-----	Di-n-butylphthalate	460	U
206-44-0-----	Fluoranthene	460	U
129-00-0-----	Pyrene	460	U
85-68-7-----	Butylbenzylphthalate	460	U
91-94-1-----	3,3'-Dichlorobenzidine	460	U
56-55-3-----	Benzo (a) anthracene	460	U
218-01-9-----	Chrysene	460	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	51	J
117-84-0-----	Di-n-octylphthalate	460	U
205-99-2-----	Benzo (b) fluoranthene	460	U
207-08-9-----	Benzo (k) fluoranthene	460	U
50-32-8-----	Benzo (a) pyrene	460	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	460	U
53-70-3-----	Dibenzo (a,h) anthracene	460	U
191-24-2-----	Benzo (g,h,i) perylene	460	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796329

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096329B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 29 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.78	20000	JB R
2.	UNKNOWN (BC)	5.56	940	JB R
3.	LABORATORY ARTIFACT	11.12	110	J R
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096758A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 67

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	30	U
74-83-9-----	Bromomethane	30	U
75-01-4-----	Vinyl Chloride	30	U
75-00-3-----	Chloroethane	30	U
75-09-2-----	Methylene Chloride	19	JB 4
67-64-1-----	Acetone	15	JB 4
75-15-0-----	Carbon Disulfide	30	U
75-35-4-----	1,1-Dichloroethene	30	U
75-34-3-----	1,1-Dichloroethane	30	U
540-59-0-----	1,2-Dichloroethene (total)	30	U
67-66-3-----	Chloroform	30	U
107-06-2-----	1,2-Dichloroethane	30	U
78-93-3-----	2-Butanone	30	U 8
71-55-6-----	1,1,1-Trichloroethane	30	U
56-23-5-----	Carbon Tetrachloride	30	U
75-27-4-----	Bromodichloromethane	30	U
78-87-5-----	1,2-Dichloropropane	30	U
10061-01-5-----	cis-1,3-Dichloropropene	30	U
79-01-6-----	Trichloroethene	30	U
124-48-1-----	Dibromochloromethane	30	U
79-00-5-----	1,1,2-Trichloroethane	30	U
71-43-2-----	Benzene	30	U
10061-02-6-----	trans-1,3-Dichloropropene	30	U
75-25-2-----	Bromoform	30	U 8
108-10-1-----	4-Methyl-2-Pentanone	30	U
591-78-6-----	2-Hexanone	30	U 8
127-18-4-----	Tetrachloroethene	30	U
79-34-5-----	1,1,2,2-Tetrachloroethane	30	U
108-88-3-----	Toluene	30	U
108-90-7-----	Chlorobenzene	30	U
100-41-4-----	Ethylbenzene	30	U
100-42-5-----	Styrene	30	U
1330-20-7-----	Xylene (Total)	30	U

FORM I VOA

OLM03.0

00026

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096758A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 67

Date Analyzed: 04/18/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	179	JB R
2.				
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FORM I VOA-TIC

OLM03.0

00027

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
 Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
 Matrix: (soil/water) SOIL Lab Sample ID: 796758
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096758B04
 Level: (low/med) LOW Date Received: 04/12/96
 % Moisture: 65 decanted: (Y/N) Y Date Extracted: 04/17/96
 Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----Phenol	940	U
111-44-4-----bis(2-Chloroethyl) ether	940	U
95-57-8-----2-Chlorophenol	940	U
541-73-1-----1,3-Dichlorobenzene	940	U
106-46-7-----1,4-Dichlorobenzene	940	U
95-50-1-----1,2-Dichlorobenzene	940	U
95-48-7-----2-Methylphenol	940	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	940	U
106-44-5-----4-Methylphenol	940	U
621-64-7-----N-Nitroso-di-n-propylamine	940	U
67-72-1-----Hexachloroethane	940	U
98-95-3-----Nitrobenzene	940	U
78-59-1-----Isophorone	940	U
88-75-5-----2-Nitrophenol	940	U
105-67-9-----2,4-Dimethylphenol	940	U
111-91-1-----bis(2-Chloroethoxy)methane	940	U
120-83-2-----2,4-Dichlorophenol	940	U
120-82-1-----1,2,4-Trichlorobenzene	940	U
91-20-3-----Naphthalene	940	U
106-47-8-----4-Chloroaniline	940	UJ
87-68-3-----Hexachlorobutadiene	940	U
59-50-7-----4-Chloro-3-methylphenol	940	U
91-57-6-----2-Methylnaphthalene	940	U
77-47-4-----Hexachlorocyclopentadiene	940	U
88-06-2-----2,4,6-Trichlorophenol	940	U
95-95-4-----2,4,5-Trichlorophenol	2400	U
91-58-7-----2-Chloronaphthalene	940	U
88-74-4-----2-Nitroaniline	2400	U
131-11-3-----Dimethylphthalate	940	U
208-96-8-----Acenaphthylene	940	U
606-20-2-----2,6-Dinitrotoluene	940	U
99-09-2-----3-Nitroaniline	2400	U
83-32-9-----Acenaphthene	940	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796758

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096758B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 65 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	2400	U
100-02-7-----	4-Nitrophenol	2400	U
132-64-9-----	Dibenzofuran	940	U
121-14-2-----	2,4-Dinitrotoluene	940	U
84-66-2-----	Diethylphthalate	940	U
7005-72-3-----	4-Chlorophenyl-phenylether	940	U
86-73-7-----	Fluorene	940	U
100-01-6-----	4-Nitroaniline	2400	U
534-52-1-----	4,6-Dinitro-2-methylphenol	2400	U
86-30-6-----	N-nitrosodiphenylamine (1)	940	U
101-55-3-----	4-Bromophenyl-phenylether	940	U
118-74-1-----	Hexachlorobenzene	940	U
87-86-5-----	Pentachlorophenol	2400	U
85-01-8-----	Phenanthrene	940	U
120-12-7-----	Anthracene	940	U
86-74-8-----	Carbazole	940	U
84-74-2-----	Di-n-butylphthalate	940	U
206-44-0-----	Fluoranthene	940	U
129-00-0-----	Pyrene	940	U
85-68-7-----	Butylbenzylphthalate	940	U
91-94-1-----	3,3'-Dichlorobenzidine	940	U
56-55-3-----	Benzo(a)anthracene	940	U
218-01-9-----	Chrysene	940	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	940	U
117-84-0-----	Di-n-octylphthalate	940	U
205-99-2-----	Benzo(b)fluoranthene	940	U
207-08-9-----	Benzo(k)fluoranthene	940	U
50-32-8-----	Benzo(a)pyrene	940	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	940	U
53-70-3-----	Dibenzo(a,h)anthracene	940	U
191-24-2-----	Benzo(g,h,i)perylene	940	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796758

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096758B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 65 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.78	37000	JAB 6
2.	UNKNOWN (BC)	5.56	1800	JB R
3.	LABORATORY ARTIFACT	11.12	200	JH R
4.	UNKNOWN	17.75	360	JN
5.	UNKNOWN	17.96	450	JV
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FORM I SV-TIC

OLM03.0

00063

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL895

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096992A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 55

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
---------	----------	---	---

74-87-3-----	Chloromethane	22	UJ
74-83-9-----	Bromomethane	22	U
75-01-4-----	Vinyl Chloride	22	U
75-00-3-----	Chloroethane	22	U
75-09-2-----	Methylene Chloride	11	JB 4J
67-64-1-----	Acetone	10	J
75-15-0-----	Carbon Disulfide	22	U
75-35-4-----	1,1-Dichloroethene	22	U
75-34-3-----	1,1-Dichloroethane	22	U
540-59-0-----	1,2-Dichloroethene (total)	22	U
67-66-3-----	Chloroform	22	U
107-06-2-----	1,2-Dichloroethane	22	U
78-93-3-----	2-Butanone	22	UJ
71-55-6-----	1,1,1-Trichloroethane	22	U
56-23-5-----	Carbon Tetrachloride	22	U
75-27-4-----	Bromodichloromethane	22	U
78-87-5-----	1,2-Dichloropropane	22	U
10061-01-5-----	cis-1,3-Dichloropropene	22	U
79-01-6-----	Trichloroethene	22	U
124-48-1-----	Dibromochloromethane	22	U
79-00-5-----	1,1,2-Trichloroethane	22	U
71-43-2-----	Benzene	22	U
10061-02-6-----	trans-1,3-Dichloropropene	22	U
75-25-2-----	Bromoform	22	UJ
108-10-1-----	4-Methyl-2-Pentanone	22	U
591-78-6-----	2-Hexanone	22	UJ
127-18-4-----	Tetrachloroethene	22	U
79-34-5-----	1,1,2,2-Tetrachloroethane	22	U
108-88-3-----	Toluene	22	U
108-90-7-----	Chlorobenzene	22	U
100-41-4-----	Ethylbenzene	22	U
100-42-5-----	Styrene	22	U
1330-20-7-----	Xylene (Total)	22	U

Handwritten signature and date: 4/26/96

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL895

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096992A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 55

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	22.65	22	JB R
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FORM I VOA-TIC

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL895

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895
Matrix: (soil/water) SOIL Lab Sample ID: 796992
Sample wt/vol: 30.4 (g/mL) g Lab File ID: GH096992A02
Level: (low/med) LOW Date Received: 04/15/96
% Moisture: 55 decanted: (Y/N) N Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	720	U
111-44-4	bis(2-Chloroethyl) ether	720	U
95-57-8	2-Chlorophenol	720	U
541-73-1	1,3-Dichlorobenzene	720	U
106-46-7	1,4-Dichlorobenzene	720	U
95-50-1	1,2-Dichlorobenzene	720	U
95-48-7	2-Methylphenol	720	U
108-60-1	2,2'-oxybis(1-Chloropropane)	720	U
106-44-5	4-Methylphenol	720	U
621-64-7	N-Nitroso-di-n-propylamine	720	U
67-72-1	Hexachloroethane	720	U
98-95-3	Nitrobenzene	720	U
78-59-1	Isophorone	720	U
88-75-5	2-Nitrophenol	720	U
105-67-9	2,4-Dimethylphenol	720	U
111-91-1	bis(2-Chloroethoxy) methane	720	U
120-83-2	2,4-Dichlorophenol	720	U
120-82-1	1,2,4-Trichlorobenzene	720	U
91-20-3	Naphthalene	720	U
106-47-8	4-Chloroaniline	720	U
87-68-3	Hexachlorobutadiene	720	U
59-50-7	4-Chloro-3-methylphenol	720	U
91-57-6	2-Methylnaphthalene	720	U
77-47-4	Hexachlorocyclopentadiene	720	U
88-06-2	2,4,6-Trichlorophenol	720	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	720	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethylphthalate	720	U
208-96-8	Acenaphthylene	720	U
606-20-2	2,6-Dinitrotoluene	720	U
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	720	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL895

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096992A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 55 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1800	U
100-02-7-----	4-Nitrophenol	1800	U
132-64-9-----	Dibenzofuran	720	U
121-14-2-----	2,4-Dinitrotoluene	720	U
84-66-2-----	Diethylphthalate	720	U
7005-72-3-----	4-Chlorophenyl-phenylether	720	U
86-73-7-----	Fluorene	720	U
100-01-6-----	4-Nitroaniline	1800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1800	U
86-30-6-----	N-nitrosodiphenylamine (1)	720	U
101-55-3-----	4-Bromophenyl-phenylether	720	U
118-74-1-----	Hexachlorobenzene	720	U
87-86-5-----	Pentachlorophenol	1800	U
85-01-8-----	Phenanthrene	720	U
120-12-7-----	Anthracene	720	U
86-74-8-----	Carbazole	720	U
84-74-2-----	Di-n-butylphthalate	720	U
206-44-0-----	Fluoranthene	720	U
129-00-0-----	Pyrene	720	U
85-68-7-----	Butylbenzylphthalate	720	U
91-94-1-----	3,3'-Dichlorobenzidine	720	U
56-55-3-----	Benzo (a) anthracene	720	U
218-01-9-----	Chrysene	720	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	85	J
117-84-0-----	Di-n-octylphthalate	720	U
205-99-2-----	Benzo (b) fluoranthene	720	U
207-08-9-----	Benzo (k) fluoranthene	720	U
50-32-8-----	Benzo (a) pyrene	720	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	720	U
53-70-3-----	Dibenzo (a,h) anthracene	720	U
191-24-2-----	Benzo (g,h,i) perylene	720	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL895

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096992A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 55

decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.49	6700	JAB R
2.	LABORATORY ARTIFACT	10.84	150	J R
3.	UNKNOWN CARBOXYLIC ACID	15.80	270	J
4.	UNKNOWN	17.63	220	J
5.	UNKNOWN	25.93	170	J
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FORM I SV-TIC

OLM03.0

Handwritten signature and date 4/22/96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL896

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096334B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/16/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
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74-87-3	-----Chloromethane	18	U
74-83-9	-----Bromomethane	18	U
75-01-4	-----Vinyl Chloride	18	U
75-00-3	-----Chloroethane	18	U
75-09-2	-----Methylene Chloride	14	JB 4J
67-64-1	-----Acetone	11	JB 4J
75-15-0	-----Carbon Disulfide	18	U
75-35-4	-----1,1-Dichloroethene	18	U
75-34-3	-----1,1-Dichloroethane	18	U
540-59-0	-----1,2-Dichloroethene (total)	18	U
67-66-3	-----Chloroform	18	U
107-06-2	-----1,2-Dichloroethane	18	U
78-93-3	-----2-Butanone	18	UJ
71-55-6	-----1,1,1-Trichloroethane	18	U
56-23-5	-----Carbon Tetrachloride	18	U
75-27-4	-----Bromodichloromethane	18	U
78-87-5	-----1,2-Dichloropropane	18	U
10061-01-5	-----cis-1,3-Dichloropropene	18	U
79-01-6	-----Trichloroethene	18	U
124-48-1	-----Dibromochloromethane	18	U
79-00-5	-----1,1,2-Trichloroethane	18	U
71-43-2	-----Benzene	18	U
10061-02-6	-----trans-1,3-Dichloropropene	18	U
75-25-2	-----Bromoform	18	U
108-10-1	-----4-Methyl-2-Pentanone	18	U
591-78-6	-----2-Hexanone	18	UJ
127-18-4	-----Tetrachloroethene	18	U
79-34-5	-----1,1,2,2-Tetrachloroethane	18	U
108-88-3	-----Toluene	18	U
108-90-7	-----Chlorobenzene	18	U
100-41-4	-----Ethylbenzene	18	U
100-42-5	-----Styrene	18	U
1330-20-7	-----Xylene (Total)	18	U

FORM I VOA

OLM03.0

00028

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL896

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096334B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/16/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	72	JB K
2.	LABORATORY ARTIFACT	17.68	12	J R
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL896

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796334

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096334B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 45 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND		
108-95-2	Phenol	590	U
111-44-4	bis(2-Chloroethyl) ether	590	U
95-57-8	2-Chlorophenol	590	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	590	U
95-50-1	1,2-Dichlorobenzene	590	U
95-48-7	2-Methylphenol	590	U
108-60-1	2,2'-oxybis(1-Chloropropane)	590	U
106-44-5	4-Methylphenol	590	U
621-64-7	N-Nitroso-di-n-propylamine	590	U
67-72-1	Hexachloroethane	590	U
98-95-3	Nitrobenzene	590	U
78-59-1	Isophorone	590	U
88-75-5	2-Nitrophenol	590	U
105-67-9	2,4-Dimethylphenol	590	U
111-91-1	bis(2-Chloroethoxy)methane	590	U
120-83-2	2,4-Dichlorophenol	590	U
120-82-1	1,2,4-Trichlorobenzene	590	U
91-20-3	Naphthalene	590	U
106-47-8	4-Chloroaniline	590	UJ
87-68-3	Hexachlorobutadiene	590	U
59-50-7	4-Chloro-3-methylphenol	590	U
91-57-6	2-Methylnaphthalene	590	U
77-47-4	Hexachlorocyclopentadiene	590	U
88-06-2	2,4,6-Trichlorophenol	590	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	590	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	590	U
208-96-8	Acenaphthylene	590	U
606-20-2	2,6-Dinitrotoluene	590	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	590	U

FORM I SV-1

OLM03.0

00064

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL896

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol: 30.5 (g/mL) g

Lab File ID: GH096334B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 45 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1500	U
100-02-7-----	4-Nitrophenol	1500	U
132-64-9-----	Dibenzofuran	590	U
121-14-2-----	2,4-Dinitrotoluene	590	U
84-66-2-----	Diethylphthalate	590	U
7005-72-3-----	4-Chlorophenyl-phenylether	590	U
86-73-7-----	Fluorene	590	U
100-01-6-----	4-Nitroaniline	1500	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1500	U
86-30-6-----	N-nitrosodiphenylamine (1)	590	U
101-55-3-----	4-Bromophenyl-phenylether	590	U
118-74-1-----	Hexachlorobenzene	590	U
87-86-5-----	Pentachlorophenol	1500	UJ
85-01-8-----	Phenanthrene	590	U
120-12-7-----	Anthracene	590	U
86-74-8-----	Carbazole	590	U
84-74-2-----	Di-n-butylphthalate	590	U
206-44-0-----	Fluoranthene	590	U
129-00-0-----	Pyrene	590	U
85-68-7-----	Butylbenzylphthalate	590	U
91-94-1-----	3,3'-Dichlorobenzidine	590	U
56-55-3-----	Benzo (a) anthracene	590	U
218-01-9-----	Chrysene	590	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	590	U
117-84-0-----	Di-n-octylphthalate	590	U
205-99-2-----	Benzo (b) fluoranthene	590	U
207-08-9-----	Benzo (k) fluoranthene	590	U
50-32-8-----	Benzo (a) pyrene	590	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	590	U
53-70-3-----	Dibenzo (a,h) anthracene	590	U
191-24-2-----	Benzo (g,h,i) perylene	590	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

00065

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL896

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796334

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096334B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 45 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.78	31000	JAB
2.	UNKNOWN (BC)	5.56	1500	JB
3.	UNKNOWN	17.81	140	JN
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[Signature] 70065

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR096337B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 48

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
---------	----------	---	---

74-87-3-----	Chloromethane	19	U
74-83-9-----	Bromomethane	19	U
75-01-4-----	Vinyl Chloride	19	U
75-00-3-----	Chloroethane	19	U
75-09-2-----	Methylene Chloride	14	JB 4J
67-64-1-----	Acetone	15	JB 4J
75-15-0-----	Carbon Disulfide	19	U
75-35-4-----	1,1-Dichloroethene	19	U
75-34-3-----	1,1-Dichloroethane	19	U
540-59-0-----	1,2-Dichloroethene (total)	19	U
67-66-3-----	Chloroform	19	U
107-06-2-----	1,2-Dichloroethane	19	U
78-93-3-----	2-Butanone	19	U
71-55-6-----	1,1,1-Trichloroethane	19	U
56-23-5-----	Carbon Tetrachloride	19	U
75-27-4-----	Bromodichloromethane	19	U
78-87-5-----	1,2-Dichloropropane	19	U
10061-01-5-----	cis-1,3-Dichloropropene	19	U
79-01-6-----	Trichloroethene	19	U
124-48-1-----	Dibromochloromethane	19	U
79-00-5-----	1,1,2-Trichloroethane	19	U
71-43-2-----	Benzene	19	U
10061-02-6-----	trans-1,3-Dichloropropene	19	U
75-25-2-----	Bromoform	19	U
108-10-1-----	4-Methyl-2-Pentanone	19	UJ
591-78-6-----	2-Hexanone	19	U
127-18-4-----	Tetrachloroethene	19	U
79-34-5-----	1,1,2,2-Tetrachloroethane	19	U
108-88-3-----	Toluene	19	U
108-90-7-----	Chlorobenzene	19	U
100-41-4-----	Ethylbenzene	19	U
100-42-5-----	Styrene	19	U
1330-20-7-----	Xylene (Total)	2	JB

FORM I VOA

OLM03.0

00030

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR096337B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 48

Date Analyzed: 04/17/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.83	17	JB R
2.	LABORATORY ARTIFACT	17.64	11	J R
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FORM I VOA-TIC

OLM03.0

00031

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
Matrix: (soil/water) SOIL Lab Sample ID: 796337
Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096337B04
Level: (low/med) LOW Date Received: 04/11/96
% Moisture: 48 decanted: (Y/N) Y Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	630	U
111-44-4	bis(2-Chloroethyl) ether	630	U
95-57-8	2-Chlorophenol	630	U
541-73-1	1,3-Dichlorobenzene	630	U
106-46-7	1,4-Dichlorobenzene	630	U
95-50-1	1,2-Dichlorobenzene	630	U
95-48-7	2-Methylphenol	630	U
108-60-1	2,2'-oxybis(1-Chloropropane)	630	U
106-44-5	4-Methylphenol	630	U
621-64-7	N-Nitroso-di-n-propylamine	630	U
67-72-1	Hexachloroethane	630	U
98-95-3	Nitrobenzene	630	U
78-59-1	Isophorone	630	U
88-75-5	2-Nitrophenol	630	U
105-67-9	2,4-Dimethylphenol	630	U
111-91-1	bis(2-Chloroethoxy) methane	630	U
120-83-2	2,4-Dichlorophenol	630	U
120-82-1	1,2,4-Trichlorobenzene	630	U
91-20-3	Naphthalene	630	U
106-47-8	4-Chloroaniline	630	UJ
87-68-3	Hexachlorobutadiene	630	U
59-50-7	4-Chloro-3-methylphenol	630	U
91-57-6	2-Methylnaphthalene	630	U
77-47-4	Hexachlorocyclopentadiene	630	U
88-06-2	2,4,6-Trichlorophenol	630	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	630	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethylphthalate	630	U
208-96-8	Acenaphthylene	630	U
606-20-2	2,6-Dinitrotoluene	630	U
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	630	U

FORM I SV-1

OLM03.0

00067

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
Matrix: (soil/water) SOIL Lab Sample ID: 796337
Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096337B04
Level: (low/med) LOW Date Received: 04/11/96
% Moisture: 48 decanted: (Y/N) Y Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.6

CONCENTRATION UNITS:
CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1600	U
100-02-7-----	4-Nitrophenol	1600	U
132-64-9-----	Dibenzofuran	630	U
121-14-2-----	2,4-Dinitrotoluene	630	U
84-66-2-----	Diethylphthalate	630	U
7005-72-3-----	4-Chlorophenyl-phenylether	630	U
86-73-7-----	Fluorene	630	U
100-01-6-----	4-Nitroaniline	1600	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1600	U
86-30-6-----	N-nitrosodiphenylamine (1)	630	U
101-55-3-----	4-Bromophenyl-phenylether	630	U
118-74-1-----	Hexachlorobenzene	630	U
87-86-5-----	Pentachlorophenol	1600	U
85-01-8-----	Phenanthrene	630	U
120-12-7-----	Anthracene	630	U
86-74-8-----	Carbazole	630	U
84-74-2-----	Di-n-butylphthalate	630	U
206-44-0-----	Fluoranthene	630	U
129-00-0-----	Pyrene	630	U
85-68-7-----	Butylbenzylphthalate	630	U
91-94-1-----	3,3'-Dichlorobenzidine	630	U
56-55-3-----	Benzo(a)anthracene	630	U
218-01-9-----	Chrysene	630	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	630	U
117-84-0-----	Di-n-octylphthalate	630	U
205-99-2-----	Benzo(b)fluoranthene	630	U
207-08-9-----	Benzo(k)fluoranthene	630	U
50-32-8-----	Benzo(a)pyrene	630	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	630	U
53-70-3-----	Dibenzo(a,h)anthracene	630	U
191-24-2-----	Benzo(g,h,i)perylene	630	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796337

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096337B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 48 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.77	28000	JAB R
2.	UNKNOWN (BC)	5.55	1400	JB R
3.	UNKNOWN CARBOXYLIC ACID	16.46	290	JN
4.	UNKNOWN	17.79	2100	J
5.	UNKNOWN	18.34	1300	J
6.	UNKNOWN	18.79	190	J
7.	UNKNOWN ALCOHOL	18.83	250	J
8.	UNKNOWN	18.86	460	J
9.	UNKNOWN	20.63	150	J
10.	UNKNOWN	28.65	140	JN
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FORM I SV-TIC

OLM03.0

00069

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL898

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096338C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 50

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) ug/Kg

Q

74-87-3-----	Chloromethane	20	U
74-83-9-----	Bromomethane	20	U
75-01-4-----	Vinyl Chloride	20	U
75-00-3-----	Chloroethane	20	U
75-09-2-----	Methylene Chloride	12	JB 4J
67-64-1-----	Acetone	13	JB 4J
75-15-0-----	Carbon Disulfide	20	U
75-35-4-----	1,1-Dichloroethene	20	U
75-34-3-----	1,1-Dichloroethane	20	U
540-59-0-----	1,2-Dichloroethene (total)	20	U
67-66-3-----	Chloroform	20	U
107-06-2-----	1,2-Dichloroethane	20	U
78-93-3-----	2-Butanone	20	U
71-55-6-----	1,1,1-Trichloroethane	20	U
56-23-5-----	Carbon Tetrachloride	20	U
75-27-4-----	Bromodichloromethane	20	U
78-87-5-----	1,2-Dichloropropane	20	U
10061-01-5-----	cis-1,3-Dichloropropene	20	U
79-01-6-----	Trichloroethene	20	U
124-48-1-----	Dibromochloromethane	20	U
79-00-5-----	1,1,2-Trichloroethane	20	U
71-43-2-----	Benzene	20	U
10061-02-6-----	trans-1,3-Dichloropropene	20	U
75-25-2-----	Bromoform	20	U
108-10-1-----	4-Methyl-2-Pentanone	20	U
591-78-6-----	2-Hexanone	20	U
127-18-4-----	Tetrachloroethene	20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	20	U
108-88-3-----	Toluene	20	U
108-90-7-----	Chlorobenzene	20	U
100-41-4-----	Ethylbenzene	20	U
100-42-5-----	Styrene	20	U
1330-20-7-----	Xylene (Total)	20	U

FORM I VOA

OLM03.0

00032

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL898

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096338C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 50

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.84	96	JB R
2.	LABORATORY ARTIFACT	17.68	13	JB R
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096338B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO. COMPOUND Q

108-95-2-----	Phenol	590	U
111-44-4-----	bis(2-Chloroethyl) ether	590	U
95-57-8-----	2-Chlorophenol	590	U
541-73-1-----	1,3-Dichlorobenzene	590	U
106-46-7-----	1,4-Dichlorobenzene	590	U
95-50-1-----	1,2-Dichlorobenzene	590	U
95-48-7-----	2-Methylphenol	590	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	590	U
106-44-5-----	4-Methylphenol	590	U
621-64-7-----	N-Nitroso-di-n-propylamine	590	U
67-72-1-----	Hexachloroethane	590	U
98-95-3-----	Nitrobenzene	590	U
78-59-1-----	Isophorone	590	U
88-75-5-----	2-Nitrophenol	590	U
105-67-9-----	2,4-Dimethylphenol	590	U
111-91-1-----	bis(2-Chloroethoxy) methane	590	U
120-83-2-----	2,4-Dichlorophenol	590	U
120-82-1-----	1,2,4-Trichlorobenzene	590	U
91-20-3-----	Naphthalene	590	U
106-47-8-----	4-Chloroaniline	590	UJ
87-68-3-----	Hexachlorobutadiene	590	U
59-50-7-----	4-Chloro-3-methylphenol	590	U
91-57-6-----	2-Methylnaphthalene	590	U
77-47-4-----	Hexachlorocyclopentadiene	590	U
88-06-2-----	2,4,6-Trichlorophenol	590	U
95-95-4-----	2,4,5-Trichlorophenol	1500	U
91-58-7-----	2-Chloronaphthalene	590	U
88-74-4-----	2-Nitroaniline	1500	U
131-11-3-----	Dimethylphthalate	590	U
208-96-8-----	Acenaphthylene	590	U
606-20-2-----	2,6-Dinitrotoluene	590	U
99-09-2-----	3-Nitroaniline	1500	U
83-32-9-----	Acenaphthene	590	U

FORM I SV-1

OLM03.0

0070

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096338B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5-----	2,4-Dinitrophenol	1500	U
100-02-7-----	4-Nitrophenol	1500	U
132-64-9-----	Dibenzofuran	590	U
121-14-2-----	2,4-Dinitrotoluene	590	U
84-66-2-----	Diethylphthalate	590	U
7005-72-3-----	4-Chlorophenyl-phenylether	590	U
86-73-7-----	Fluorene	590	U
100-01-6-----	4-Nitroaniline	1500	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1500	U
86-30-6-----	N-nitrosodiphenylamine (1)	590	U
101-55-3-----	4-Bromophenyl-phenylether	590	U
118-74-1-----	Hexachlorobenzene	590	U
87-86-5-----	Pentachlorophenol	1500	UJ
85-01-8-----	Phenanthrene	590	U
120-12-7-----	Anthracene	590	U
86-74-8-----	Carbazole	590	U
84-74-2-----	Di-n-butylphthalate	590	U
206-44-0-----	Fluoranthene	590	U
129-00-0-----	Pyrene	590	U
85-68-7-----	Butylbenzylphthalate	590	U
91-94-1-----	3,3'-Dichlorobenzidine	590	U
56-55-3-----	Benzo(a)anthracene	590	U
218-01-9-----	Chrysene	590	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	590	U
117-84-0-----	Di-n-octylphthalate	590	U
205-99-2-----	Benzo(b)fluoranthene	590	U
207-08-9-----	Benzo(k)fluoranthene	590	U
50-32-8-----	Benzo(a)pyrene	590	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	590	U
53-70-3-----	Dibenzo(a,h)anthracene	590	U
191-24-2-----	Benzo(g,h,i)perylene	590	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096338B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 5
CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.76	20000	JAB R
2.	UNKNOWN (BC)	5.55	910	JB R
3.	UNKNOWN	16.47	240	JU
4.	UNKNOWN	17.99	170	J
5.	UNKNOWN	18.31	190	JV
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FORM I SV-TIC

OLM03.0

00072

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096339C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	18	U
74-83-9-----	Bromomethane	18	U
75-01-4-----	Vinyl Chloride	18	U
75-00-3-----	Chloroethane	18	U
75-09-2-----	Methylene Chloride	12	U
67-64-1-----	Acetone	8	U
75-15-0-----	Carbon Disulfide	18	U
75-35-4-----	1,1-Dichloroethene	18	U
75-34-3-----	1,1-Dichloroethane	18	U
540-59-0-----	1,2-Dichloroethene (total)	18	U
67-66-3-----	Chloroform	18	U
107-06-2-----	1,2-Dichloroethane	18	U
78-93-3-----	2-Butanone	18	U
71-55-6-----	1,1,1-Trichloroethane	18	U
56-23-5-----	Carbon Tetrachloride	18	U
75-27-4-----	Bromodichloromethane	18	U
78-87-5-----	1,2-Dichloropropane	18	U
10061-01-5-----	cis-1,3-Dichloropropene	18	U
79-01-6-----	Trichloroethene	18	U
124-48-1-----	Dibromochloromethane	18	U
79-00-5-----	1,1,2-Trichloroethane	18	U
71-43-2-----	Benzene	18	U
10061-02-6-----	trans-1,3-Dichloropropene	18	U
75-25-2-----	Bromoform	18	U
108-10-1-----	4-Methyl-2-Pentanone	18	U
591-78-6-----	2-Hexanone	18	U
127-18-4-----	Tetrachloroethene	18	U
79-34-5-----	1,1,2,2-Tetrachloroethane	18	U
108-88-3-----	Toluene	18	U
108-90-7-----	Chlorobenzene	18	U
100-41-4-----	Ethylbenzene	18	U
100-42-5-----	Styrene	18	U
1330-20-7-----	Xylene (Total)	18	U

FORM I VOA

OLM03.0

00034

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096339C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	71	JB R
2.	LABORATORY ARTIFACT	17.69	15	JB R
3.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796339

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096339B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 39 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
---------	----------	---	---

108-95-2-----	Phenol	540	U
111-44-4-----	bis(2-Chloroethyl) ether	540	U
95-57-8-----	2-Chlorophenol	540	U
541-73-1-----	1,3-Dichlorobenzene	540	U
106-46-7-----	1,4-Dichlorobenzene	540	U
95-50-1-----	1,2-Dichlorobenzene	540	U
95-48-7-----	2-Methylphenol	540	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	540	U
106-44-5-----	4-Methylphenol	540	U
621-64-7-----	N-Nitroso-di-n-propylamine	540	U
67-72-1-----	Hexachloroethane	540	U
98-95-3-----	Nitrobenzene	540	U
78-59-1-----	Isophorone	540	U
88-75-5-----	2-Nitrophenol	540	U
105-67-9-----	2,4-Dimethylphenol	540	U
111-91-1-----	bis(2-Chloroethoxy) methane	540	U
120-83-2-----	2,4-Dichlorophenol	540	U
120-82-1-----	1,2,4-Trichlorobenzene	540	U
91-20-3-----	Naphthalene	540	U
106-47-8-----	4-Chloroaniline	540	U
87-68-3-----	Hexachlorobutadiene	540	U
59-50-7-----	4-Chloro-3-methylphenol	540	U
91-57-6-----	2-Methylnaphthalene	540	U
77-47-4-----	Hexachlorocyclopentadiene	540	U
88-06-2-----	2,4,6-Trichlorophenol	540	U
95-95-4-----	2,4,5-Trichlorophenol	1400	U
91-58-7-----	2-Chloronaphthalene	540	U
88-74-4-----	2-Nitroaniline	1400	U
131-11-3-----	Dimethylphthalate	540	U
208-96-8-----	Acenaphthylene	540	U
606-20-2-----	2,6-Dinitrotoluene	540	U
99-09-2-----	3-Nitroaniline	1400	U
83-32-9-----	Acenaphthene	540	U

Signature
00073

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796339

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096339B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 39 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5-----	2,4-Dinitrophenol	1400	U
100-02-7-----	4-Nitrophenol	1400	U
132-64-9-----	Dibenzofuran	540	U
121-14-2-----	2,4-Dinitrotoluene	540	U
84-66-2-----	Diethylphthalate	540	U
7005-72-3-----	4-Chlorophenyl-phenylether	540	U
86-73-7-----	Fluorene	540	U
100-01-6-----	4-Nitroaniline	1400	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1400	U
86-30-6-----	N-nitrosodiphenylamine (1)	540	U
101-55-3-----	4-Bromophenyl-phenylether	540	U
118-74-1-----	Hexachlorobenzene	540	U
87-86-5-----	Pentachlorophenol	1400	UJ
85-01-8-----	Phenanthrene	540	U
120-12-7-----	Anthracene	540	U
86-74-8-----	Carbazole	540	U
84-74-2-----	Di-n-butylphthalate	540	U
206-44-0-----	Fluoranthene	540	U
129-00-0-----	Pyrene	540	U
85-68-7-----	Butylbenzylphthalate	540	U
91-94-1-----	3,3'-Dichlorobenzidine	540	U
56-55-3-----	Benzo(a)anthracene	540	U
218-01-9-----	Chrysene	540	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	540	U
117-84-0-----	Di-n-octylphthalate	540	U
205-99-2-----	Benzo(b)fluoranthene	540	U
207-08-9-----	Benzo(k)fluoranthene	540	U
50-32-8-----	Benzo(a)pyrene	540	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	540	U
53-70-3-----	Dibenzo(a,h)anthracene	540	U
191-24-2-----	Benzo(g,h,i)perylene	540	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

00074

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: GH096339B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 39 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.78	22000	JAB R
2.	UNKNOWN (BC)	5.56	1100	JB R
3.	UNKNOWN	17.83	130	JN
4.	UNKNOWN	18.38	190	JN
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FORM I SV-TIC

OLM03.0

00075

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096764A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 39

Date Analyzed: 04/18/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
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74-87-3-----	Chloromethane	16	U
74-83-9-----	Bromomethane	16	U
75-01-4-----	Vinyl Chloride	16	U
75-00-3-----	Chloroethane	16	U
75-09-2-----	Methylene Chloride	11	JB U
67-64-1-----	Acetone	6	JB U
75-15-0-----	Carbon Disulfide	16	U
75-35-4-----	1,1-Dichloroethene	16	U
75-34-3-----	1,1-Dichloroethane	16	U
540-59-0-----	1,2-Dichloroethene (total)	16	U
67-66-3-----	Chloroform	16	U
107-06-2-----	1,2-Dichloroethane	16	U
78-93-3-----	2-Butanone	16	U 8
71-55-6-----	1,1,1-Trichloroethane	16	U
56-23-5-----	Carbon Tetrachloride	16	U
75-27-4-----	Bromodichloromethane	16	U
78-87-5-----	1,2-Dichloropropane	16	U
10061-01-5-----	cis-1,3-Dichloropropene	16	U
79-01-6-----	Trichloroethene	16	U
124-48-1-----	Dibromochloromethane	16	U
79-00-5-----	1,1,2-Trichloroethane	16	U
71-43-2-----	Benzene	16	U
10061-02-6-----	trans-1,3-Dichloropropene	16	U
75-25-2-----	Bromoform	16	U 8
108-10-1-----	4-Methyl-2-Pentanone	16	U
591-78-6-----	2-Hexanone	16	U 8
127-18-4-----	Tetrachloroethene	16	U
79-34-5-----	1,1,2,2-Tetrachloroethane	16	U
108-88-3-----	Toluene	16	U
108-90-7-----	Chlorobenzene	16	U
100-41-4-----	Ethylbenzene	16	U
100-42-5-----	Styrene	16	U
1330-20-7-----	Xylene (Total)	16	U

FORM I VOA

OLM03.0

00036

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096764A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 39

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.83	37	JB R
2.	LABORATORY ARTIFACT	17.67	21	JB R
3.				
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FORM I VOA-TIC

OLM03.0

00037

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796764

Sample wt/vol: 30.0 (g/mL) g Lab File ID: GH096764B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2	Phenol	530	U
111-44-4	bis (2-Chloroethyl) ether	530	U
95-57-8	2-Chlorophenol	530	U
541-73-1	1,3-Dichlorobenzene	530	U
106-46-7	1,4-Dichlorobenzene	530	U
95-50-1	1,2-Dichlorobenzene	530	U
95-48-7	2-Methylphenol	530	U
108-60-1	2,2'-oxybis (1-Chloropropane)	530	U
106-44-5	4-Methylphenol	530	U
621-64-7	N-Nitroso-di-n-propylamine	530	U
67-72-1	Hexachloroethane	530	U
98-95-3	Nitrobenzene	530	U
78-59-1	Isophorone	530	U
88-75-5	2-Nitrophenol	530	U
105-67-9	2,4-Dimethylphenol	530	U
111-91-1	bis (2-Chloroethoxy) methane	530	U
120-83-2	2,4-Dichlorophenol	530	U
120-82-1	1,2,4-Trichlorobenzene	530	U
91-20-3	Naphthalene	530	U
106-47-8	4-Chloroaniline	530	U
87-68-3	Hexachlorobutadiene	530	U
59-50-7	4-Chloro-3-methylphenol	530	U
91-57-6	2-Methylnaphthalene	530	U
77-47-4	Hexachlorocyclopentadiene	530	U
88-06-2	2,4,6-Trichlorophenol	530	U
95-95-4	2,4,5-Trichlorophenol	1300	U
91-58-7	2-Chloronaphthalene	530	U
88-74-4	2-Nitroaniline	1300	U
131-11-3	Dimethylphthalate	530	U
208-96-8	Acenaphthylene	530	U
606-20-2	2,6-Dinitrotoluene	530	U
99-09-2	3-Nitroaniline	1300	U
83-32-9	Acenaphthene	530	U

FORM I SV-1

OLM03.0

[Signature] 00076

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796764

Sample wt/vol: 30.0 (g/mL) g Lab File ID: GH096764B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1300	U
100-02-7-----	4-Nitrophenol	1300	U
132-64-9-----	Dibenzofuran	530	U
121-14-2-----	2,4-Dinitrotoluene	530	U
84-66-2-----	Diethylphthalate	530	U
7005-72-3-----	4-Chlorophenyl-phenylether	530	U
86-73-7-----	Fluorene	530	U
100-01-6-----	4-Nitroaniline	1300	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1300	U
86-30-6-----	N-nitrosodiphenylamine (1)	530	U
101-55-3-----	4-Bromophenyl-phenylether	530	U
118-74-1-----	Hexachlorobenzene	530	U
87-86-5-----	Pentachlorophenol	1300	UJ
85-01-8-----	Phenanthrene	530	U
120-12-7-----	Anthracene	530	U
86-74-8-----	Carbazole	530	U
84-74-2-----	Di-n-butylphthalate	530	U
206-44-0-----	Fluoranthene	530	U
129-00-0-----	Pyrene	530	U
85-68-7-----	Butylbenzylphthalate	530	U
91-94-1-----	3,3'-Dichlorobenzidine	530	U
56-55-3-----	Benzo (a) anthracene	530	U
218-01-9-----	Chrysene	530	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	530	U
117-84-0-----	Di-n-octylphthalate	530	U
205-99-2-----	Benzo (b) fluoranthene	530	U
207-08-9-----	Benzo (k) fluoranthene	530	U
50-32-8-----	Benzo (a) pyrene	530	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	530	U
53-70-3-----	Dibenzo (a,h) anthracene	530	U
191-24-2-----	Benzo (g,h,i) perylene	530	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

Sm. L. J. / m. k.
100077

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 30.0 (g/mL) g

Lab File ID: GH096764B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 38 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.79	25000	JAB R
2.	UNKNOWN	5.22	110	JN
3.	UNKNOWN (BC)	5.56	1400	JB R
4.	UNKNOWN	5.71	110	JN
5.	LABORATORY ARTIFACT	11.12	110	JN R
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FORM I SV-TIC

OLM03.0

00078

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL901

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096340A54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 41

Date Analyzed: 04/18/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3	Chloromethane	17	U	
74-83-9	Bromomethane	17	U	
75-01-4	Vinyl Chloride	17	U	
75-00-3	Chloroethane	17	U	
75-09-2	Methylene Chloride	13	JB	4J
67-64-1	Acetone	7	JB	4J
75-15-0	Carbon Disulfide	17	U	
75-35-4	1,1-Dichloroethene	17	U	
75-34-3	1,1-Dichloroethane	17	U	
540-59-0	1,2-Dichloroethene (total)	17	U	
67-66-3	Chloroform	17	U	
107-06-2	1,2-Dichloroethane	17	U	
78-93-3	2-Butanone	17	U	8
71-55-6	1,1,1-Trichloroethane	17	U	
56-23-5	Carbon Tetrachloride	17	U	
75-27-4	Bromodichloromethane	17	U	
78-87-5	1,2-Dichloropropane	17	U	
10061-01-5	cis-1,3-Dichloropropene	17	U	
79-01-6	Trichloroethene	17	U	
124-48-1	Dibromochloromethane	17	U	
79-00-5	1,1,2-Trichloroethane	17	U	
71-43-2	Benzene	17	U	
10061-02-6	trans-1,3-Dichloropropene	17	U	
75-25-2	Bromoform	17	U	8
108-10-1	4-Methyl-2-Pentanone	17	U	
591-78-6	2-Hexanone	17	U	8
127-18-4	Tetrachloroethene	17	U	8
79-34-5	1,1,2,2-Tetrachloroethane	17	U	
108-88-3	Toluene	17	U	
108-90-7	Chlorobenzene	17	U	
100-41-4	Ethylbenzene	17	U	
100-42-5	Styrene	17	U	
1330-20-7	Xylene (Total)	17	U	

FORM I VOA

OLM03.0

00038

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL901

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096340A54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 41

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.84	79	JB R
2.	LABORATORY ARTIFACT	17.67	10	JB R
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FORM I VOA-TIC

OLM03.0
00039

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL901

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096340B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	ug/Kg	Q
108-95-2	Phenol	530	U	
111-44-4	bis(2-Chloroethyl) ether	530	U	
95-57-8	2-Chlorophenol	530	U	
541-73-1	1,3-Dichlorobenzene	530	U	
106-46-7	1,4-Dichlorobenzene	530	U	
95-50-1	1,2-Dichlorobenzene	530	U	
95-48-7	2-Methylphenol	530	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	530	U	
106-44-5	4-Methylphenol	530	U	
621-64-7	N-Nitroso-di-n-propylamine	530	U	
67-72-1	Hexachloroethane	530	U	
98-95-3	Nitrobenzene	530	U	
78-59-1	Isophorone	530	U	
88-75-5	2-Nitrophenol	530	U	
105-67-9	2,4-Dimethylphenol	530	U	
111-91-1	bis(2-Chloroethoxy) methane	530	U	
120-83-2	2,4-Dichlorophenol	530	U	
120-82-1	1,2,4-Trichlorobenzene	530	U	
91-20-3	Naphthalene	530	U	
106-47-8	4-Chloroaniline	530	U	
87-68-3	Hexachlorobutadiene	530	U	
59-50-7	4-Chloro-3-methylphenol	530	U	
91-57-6	2-Methylnaphthalene	530	U	
77-47-4	Hexachlorocyclopentadiene	530	U	
88-06-2	2,4,6-Trichlorophenol	530	U	
95-95-4	2,4,5-Trichlorophenol	1300	U	
91-58-7	2-Chloronaphthalene	530	U	
88-74-4	2-Nitroaniline	1300	U	
131-11-3	Dimethylphthalate	530	U	
208-96-8	Acenaphthylene	530	U	
606-20-2	2,6-Dinitrotoluene	530	U	
99-09-2	3-Nitroaniline	1300	U	
83-32-9	Acenaphthene	530	U	

FORM I SV-1

OLM03.0

00079

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL901

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096340B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	1300	U
100-02-7	4-Nitrophenol	1300	U
132-64-9	Dibenzofuran	530	U
121-14-2	2,4-Dinitrotoluene	530	U
84-66-2	Diethylphthalate	530	U
7005-72-3	4-Chlorophenyl-phenylether	530	U
86-73-7	Fluorene	530	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	1300	U
86-30-6	N-nitrosodiphenylamine (1)	530	U
101-55-3	4-Bromophenyl-phenylether	530	U
118-74-1	Hexachlorobenzene	530	U
87-86-5	Pentachlorophenol	1300	U
85-01-8	Phenanthrene	530	U
120-12-7	Anthracene	530	U
86-74-8	Carbazole	530	U
84-74-2	Di-n-butylphthalate	530	U
206-44-0	Fluoranthene	530	U
129-00-0	Pyrene	530	U
85-68-7	Butylbenzylphthalate	530	U
91-94-1	3,3'-Dichlorobenzidine	530	U
56-55-3	Benzo(a) anthracene	530	U
218-01-9	Chrysene	530	U
117-81-7	bis(2-Ethylhexyl)phthalate	530	U
117-84-0	Di-n-octylphthalate	530	U
205-99-2	Benzo(b) fluoranthene	530	U
207-08-9	Benzo(k) fluoranthene	530	U
50-32-8	Benzo(a) pyrene	530	U
193-39-5	Indeno(1,2,3-cd)pyrene	530	U
53-70-3	Dibenzo(a,h)anthracene	530	U
191-24-2	Benzo(g,h,i)perylene	530	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

[Handwritten signature] 5/2/96
00552

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL901

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096340B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.77	20000	JAB R
2.	UNKNOWN (BC)	5.55	940	JB R
3.				
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FORM I SV-TIC

OLM03.0

00081

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL902

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796765

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096765A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 52

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

74-87-3	-----Chloromethane	21	U
74-83-9	-----Bromomethane	21	U
75-01-4	-----Vinyl Chloride	21	U
75-00-3	-----Chloroethane	21	U
75-09-2	-----Methylene Chloride	22	B UJ
67-64-1	-----Acetone	5	JB UJ
75-15-0	-----Carbon Disulfide	21	U
75-35-4	-----1,1-Dichloroethene	21	U
75-34-3	-----1,1-Dichloroethane	21	U
540-59-0	-----1,2-Dichloroethene (total)	21	U
67-66-3	-----Chloroform	21	U
107-06-2	-----1,2-Dichloroethane	21	U
78-93-3	-----2-Butanone	21	U y 8
71-55-6	-----1,1,1-Trichloroethane	21	U
56-23-5	-----Carbon Tetrachloride	21	U
75-27-4	-----Bromodichloromethane	21	U
78-87-5	-----1,2-Dichloropropane	21	U
10061-01-5	-----cis-1,3-Dichloropropene	21	U
79-01-6	-----Trichloroethene	21	U
124-48-1	-----Dibromochloromethane	21	U
79-00-5	-----1,1,2-Trichloroethane	21	U
71-43-2	-----Benzene	21	U
10061-02-6	-----trans-1,3-Dichloropropene	21	U
75-25-2	-----Bromoform	21	U y 8
108-10-1	-----4-Methyl-2-Pentanone	21	U
591-78-6	-----2-Hexanone	21	U y 8
127-18-4	-----Tetrachloroethene	21	U
79-34-5	-----1,1,2,2-Tetrachloroethane	21	U
108-88-3	-----Toluene	21	U
108-90-7	-----Chlorobenzene	21	U
100-41-4	-----Ethylbenzene	21	U
100-42-5	-----Styrene	21	U
1330-20-7	-----Xylene (Total)	21	U

FORM I VOA

OLM03.0

00040

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL902

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796765

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096765A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 52

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.84	109	JB R
2.	LABORATORY ARTIFACT	17.68	18	JB R
3.				
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FORM I VOA-TIC

OLM03.0

00041

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL904

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL Lab Sample ID: 796993

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096993A02

Level: (low/med) LOW Date Received: 04/15/96

% Moisture: 49 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND		
108-95-2-----	Phenol	640	U
111-44-4-----	bis(2-Chloroethyl) ether	640	U
95-57-8-----	2-Chlorophenol	640	U
541-73-1-----	1,3-Dichlorobenzene	640	U
106-46-7-----	1,4-Dichlorobenzene	640	U
95-50-1-----	1,2-Dichlorobenzene	640	U
95-48-7-----	2-Methylphenol	640	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	640	U
106-44-5-----	4-Methylphenol	640	U
621-64-7-----	N-Nitroso-di-n-propylamine	640	U
67-72-1-----	Hexachloroethane	640	U
98-95-3-----	Nitrobenzene	640	U
78-59-1-----	Isophorone	640	U
88-75-5-----	2-Nitrophenol	640	U
105-67-9-----	2,4-Dimethylphenol	640	U
111-91-1-----	bis(2-Chloroethoxy) methane	640	U
120-83-2-----	2,4-Dichlorophenol	640	U
120-82-1-----	1,2,4-Trichlorobenzene	640	U
91-20-3-----	Naphthalene	640	U
106-47-8-----	4-Chloroaniline	640	U
87-68-3-----	Hexachlorobutadiene	640	U
59-50-7-----	4-Chloro-3-methylphenol	640	U
91-57-6-----	2-Methylnaphthalene	640	U
77-47-4-----	Hexachlorocyclopentadiene	640	U
88-06-2-----	2,4,6-Trichlorophenol	640	U
95-95-4-----	2,4,5-Trichlorophenol	1600	U
91-58-7-----	2-Chloronaphthalene	640	U
88-74-4-----	2-Nitroaniline	1600	U
131-11-3-----	Dimethylphthalate	640	U
208-96-8-----	Acenaphthylene	640	U
606-20-2-----	2,6-Dinitrotoluene	640	U
99-09-2-----	3-Nitroaniline	1600	U
83-32-9-----	Acenaphthene	640	U

FORM I SV-1

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL904

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895
Matrix: (soil/water) SOIL Lab Sample ID: 796993
Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096993A02
Level: (low/med) LOW Date Received: 04/15/96
% Moisture: 49 decanted: (Y/N) N Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS:
CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1600	U
100-02-7-----	4-Nitrophenol	1600	U
132-64-9-----	Dibenzofuran	640	U
121-14-2-----	2,4-Dinitrotoluene	640	U
84-66-2-----	Diethylphthalate	640	U
7005-72-3-----	4-Chlorophenyl-phenylether	640	U
86-73-7-----	Fluorene	640	U
100-01-6-----	4-Nitroaniline	1600	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1600	U
86-30-6-----	N-nitrosodiphenylamine (1)	640	U
101-55-3-----	4-Bromophenyl-phenylether	640	U
118-74-1-----	Hexachlorobenzene	640	U
87-86-5-----	Pentachlorophenol	1600	U
85-01-8-----	Phenanthrene	640	U
120-12-7-----	Anthracene	640	U
86-74-8-----	Carbazole	640	U
84-74-2-----	Di-n-butylphthalate	640	U
206-44-0-----	Fluoranthene	640	U
129-00-0-----	Pyrene	640	U
85-68-7-----	Butylbenzylphthalate	640	U
91-94-1-----	3,3'-Dichlorobenzidine	640	U
56-55-3-----	Benzo (a) anthracene	640	U
218-01-9-----	Chrysene	640	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	80	J
117-84-0-----	Di-n-octylphthalate	640	U
205-99-2-----	Benzo (b) fluoranthene	640	U
207-08-9-----	Benzo (k) fluoranthene	640	U
50-32-8-----	Benzo (a) pyrene	640	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	640	U
53-70-3-----	Dibenzo (a,h) anthracene	640	U
191-24-2-----	Benzo (g,h,i) perylene	640	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

3

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL904

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796993

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096993A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 49 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 7

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.45	7400	JAB
2.	UNKNOWN	17.40	320	J
3.	UNKNOWN	17.60	160	J
4.	UNKNOWN	17.62	140	J
5.	UNKNOWN	24.53	320	J
6.	UNKNOWN	24.56	260	J
7.	UNKNOWN	25.91	1400	J
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FORM I SV-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL905

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096994A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 49

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	20	UJ
74-83-9-----	Bromomethane	20	U
75-01-4-----	Vinyl Chloride	20	U
75-00-3-----	Chloroethane	20	U
75-09-2-----	Methylene Chloride	13	JB 4J
67-64-1-----	Acetone	20	UJ
75-15-0-----	Carbon Disulfide	20	U
75-35-4-----	1,1-Dichloroethane	20	U
75-34-3-----	1,1-Dichloroethane	20	U
540-59-0-----	1,2-Dichloroethene (total)	20	U
67-66-3-----	Chloroform	20	U
107-06-2-----	1,2-Dichloroethane	20	U
78-93-3-----	2-Butanone	20	UJ
71-55-6-----	1,1,1-Trichloroethane	20	U
56-23-5-----	Carbon Tetrachloride	20	U
75-27-4-----	Bromodichloromethane	20	U
78-87-5-----	1,2-Dichloropropane	20	U
10061-01-5-----	cis-1,3-Dichloropropene	20	U
79-01-6-----	Trichloroethene	20	U
124-48-1-----	Dibromochloromethane	20	U
79-00-5-----	1,1,2-Trichloroethane	20	U
71-43-2-----	Benzene	20	U
10061-02-6-----	trans-1,3-Dichloropropene	20	U
75-25-2-----	Bromoform	20	UJ
108-10-1-----	4-Methyl-2-Pentanone	20	U
591-78-6-----	2-Hexanone	20	UJ
127-18-4-----	Tetrachloroethene	20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	20	U
108-88-3-----	Toluene	20	U
108-90-7-----	Chlorobenzene	20	U
100-41-4-----	Ethylbenzene	20	U
100-42-5-----	Styrene	20	U
1330-20-7-----	Xylene (Total)	20	U

FORM I VOA

OLM03.0

22

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL905

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096994A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 49

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	22.65	14	JB R
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FORM I VOA-TIC

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL905

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL Lab Sample ID: 796994

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096994A02

Level: (low/med) LOW Date Received: 04/15/96

% Moisture: 48 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	630	U
111-44-4-----	bis(2-Chloroethyl) ether	630	U
95-57-8-----	2-Chlorophenol	630	U
541-73-1-----	1,3-Dichlorobenzene	630	U
106-46-7-----	1,4-Dichlorobenzene	630	U
95-50-1-----	1,2-Dichlorobenzene	630	U
95-48-7-----	2-Methylphenol	630	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	630	U
106-44-5-----	4-Methylphenol	630	U
621-64-7-----	N-Nitroso-di-n-propylamine	630	U
67-72-1-----	Hexachloroethane	630	U
98-95-3-----	Nitrobenzene	630	U
78-59-1-----	Isophorone	630	U
88-75-5-----	2-Nitrophenol	630	U
105-67-9-----	2,4-Dimethylphenol	630	U
111-91-1-----	bis(2-Chloroethoxy)methane	630	U
120-83-2-----	2,4-Dichlorophenol	630	U
120-82-1-----	1,2,4-Trichlorobenzene	630	U
91-20-3-----	Naphthalene	630	U
106-47-8-----	4-Chloroaniline	630	U
87-68-3-----	Hexachlorobutadiene	630	U
59-50-7-----	4-Chloro-3-methylphenol	630	U
91-57-6-----	2-Methylnaphthalene	630	U
77-47-4-----	Hexachlorocyclopentadiene	630	U
88-06-2-----	2,4,6-Trichlorophenol	630	U
95-95-4-----	2,4,5-Trichlorophenol	1600	U
91-58-7-----	2-Chloronaphthalene	630	U
88-74-4-----	2-Nitroaniline	1600	U
131-11-3-----	Dimethylphthalate	630	U
208-96-8-----	Acenaphthylene	630	U
606-20-2-----	2,6-Dinitrotoluene	630	U
99-09-2-----	3-Nitroaniline	1600	U
83-32-9-----	Acenaphthene	630	U

FORM I SV-1

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL905

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895
Matrix: (soil/water) SOIL Lab Sample ID: 796994
Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096994A02
Level: (low/med) LOW Date Received: 04/15/96
% Moisture: 48 decanted: (Y/N) N Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1600	U
100-02-7-----	4-Nitrophenol	1600	U
132-64-9-----	Dibenzofuran	630	U
121-14-2-----	2,4-Dinitrotoluene	630	U
84-66-2-----	Diethylphthalate	630	U
7005-72-3-----	4-Chlorophenyl-phenylether	630	U
86-73-7-----	Fluorene	630	U
100-01-6-----	4-Nitroaniline	1600	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1600	U
86-30-6-----	N-nitrosodiphenylamine (1)	630	U
101-55-3-----	4-Bromophenyl-phenylether	630	U
118-74-1-----	Hexachlorobenzene	630	U
87-86-5-----	Pentachlorophenol	1600	U
85-01-8-----	Phenanthrene	630	U
120-12-7-----	Anthracene	630	U
86-74-8-----	Carbazole	630	U
84-74-2-----	Di-n-butylphthalate	630	U
206-44-0-----	Fluoranthene	630	U
129-00-0-----	Pyrene	630	U
85-68-7-----	Butylbenzylphthalate	630	U
91-94-1-----	3,3'-Dichlorobenzidine	630	U
56-55-3-----	Benzo (a) anthracene	630	U
218-01-9-----	Chrysene	630	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	92	J
117-84-0-----	Di-n-octylphthalate	630	U
205-99-2-----	Benzo (b) fluoranthene	630	U
207-08-9-----	Benzo (k) fluoranthene	630	U
50-32-8-----	Benzo (a) pyrene	630	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	630	U
53-70-3-----	Dibenzo (a,h) anthracene	630	U
191-24-2-----	Benzo (g,h,i) perylene	630	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL905

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096994A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 48 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.6

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.48	7100	JAB
2.	LABORATORY ARTIFACT	10.83	130	J R
3.	UNKNOWN ALCOHOL	15.77	280	J
4.	UNKNOWN	17.63	180	J
5.	UNKNOWN	17.82	230	J
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FORM I SV-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL906

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096995A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 52

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	21	UJ
74-83-9-----	Bromomethane	21	U
75-01-4-----	Vinyl Chloride	21	U
75-00-3-----	Chloroethane	21	U
75-09-2-----	Methylene Chloride	13	JE UJ
67-64-1-----	Acetone	21	UJ
75-15-0-----	Carbon Disulfide	21	U
75-35-4-----	1,1-Dichloroethene	21	U
75-34-3-----	1,1-Dichloroethane	21	U
540-59-0-----	1,2-Dichloroethene (total)	21	U
67-66-3-----	Chloroform	21	U
107-06-2-----	1,2-Dichloroethane	21	U
78-93-3-----	2-Butanone	21	UJ
71-55-6-----	1,1,1-Trichloroethane	21	U
56-23-5-----	Carbon Tetrachloride	21	U
75-27-4-----	Bromodichloromethane	21	U
78-87-5-----	1,2-Dichloropropane	21	U
10061-01-5-----	cis-1,3-Dichloropropene	21	U
79-01-6-----	Trichloroethene	21	U
124-48-1-----	Dibromochloromethane	21	U
79-00-5-----	1,1,2-Trichloroethane	21	U
71-43-2-----	Benzene	21	U
10061-02-6-----	trans-1,3-Dichloropropene	21	U
75-25-2-----	Bromoform	21	UJ
108-10-1-----	4-Methyl-2-Pentanone	21	U
591-78-6-----	2-Hexanone	21	UJ
127-18-4-----	Tetrachloroethene	21	U
79-34-5-----	1,1,2,2-Tetrachloroethane	21	U
108-88-3-----	Toluene	21	U
108-90-7-----	Chlorobenzene	21	U
100-41-4-----	Ethylbenzene	21	U
100-42-5-----	Styrene	21	U
1330-20-7-----	Xylene (Total)	21	U

FORM I VOA

OLM03.0

Handwritten signature and date: 4/20/96

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL906

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096995A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 52

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL906

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096995A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	680	U
111-44-4	bis (2-Chloroethyl) ether	680	U
95-57-8	2-Chlorophenol	680	U
541-73-1	1,3-Dichlorobenzene	680	U
106-46-7	1,4-Dichlorobenzene	680	U
95-50-1	1,2-Dichlorobenzene	680	U
95-48-7	2-Methylphenol	680	U
108-60-1	2,2'-oxybis (1-Chloropropane)	680	U
106-44-5	4-Methylphenol	680	U
621-64-7	N-Nitroso-di-n-propylamine	680	U
67-72-1	Hexachloroethane	680	U
98-95-3	Nitrobenzene	680	U
78-59-1	Isophorone	680	U
88-75-5	2-Nitrophenol	680	U
105-67-9	2,4-Dimethylphenol	680	U
111-91-1	bis (2-Chloroethoxy) methane	680	U
120-83-2	2,4-Dichlorophenol	680	U
120-82-1	1,2,4-Trichlorobenzene	680	U
91-20-3	Naphthalene	680	U
106-47-8	4-Chloroaniline	680	U
87-68-3	Hexachlorobutadiene	680	U
59-50-7	4-Chloro-3-methylphenol	680	U
91-57-6	2-Methylnaphthalene	680	U
77-47-4	Hexachlorocyclopentadiene	680	U
88-06-2	2,4,6-Trichlorophenol	680	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	680	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethylphthalate	680	U
208-96-8	Acenaphthylene	680	U
606-20-2	2,6-Dinitrotoluene	680	U
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	680	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL906

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL Lab Sample ID: 796995

Sample wt/vol: 30.4 (g/mL) g Lab File ID: GH096995A02

Level: (low/med) LOW Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1700	U
100-02-7-----	4-Nitrophenol	1700	U
132-64-9-----	Dibenzofuran	680	U
121-14-2-----	2,4-Dinitrotoluene	680	U
84-66-2-----	Diethylphthalate	680	U
7005-72-3-----	4-Chlorophenyl-phenylether	680	U
86-73-7-----	Fluorene	680	U
100-01-6-----	4-Nitroaniline	1700	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1700	U
86-30-6-----	N-nitrosodiphenylamine (1)	680	U
101-55-3-----	4-Bromophenyl-phenylether	680	U
118-74-1-----	Hexachlorobenzene	680	U
87-86-5-----	Pentachlorophenol	1700	U
85-01-8-----	Phenanthrene	680	U
120-12-7-----	Anthracene	680	U
86-74-8-----	Carbazole	680	U
84-74-2-----	Di-n-butylphthalate	680	U
206-44-0-----	Fluoranthene	680	U
129-00-0-----	Pyrene	680	U
85-68-7-----	Butylbenzylphthalate	680	U
91-94-1-----	3,3'-Dichlorobenzidine	680	U
56-55-3-----	Benzo (a) anthracene	680	U
218-01-9-----	Chrysene	680	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	97	J
117-84-0-----	Di-n-octylphthalate	680	U
205-99-2-----	Benzo (b) fluoranthene	680	U
207-08-9-----	Benzo (k) fluoranthene	680	U
50-32-8-----	Benzo (a) pyrene	680	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	680	U
53-70-3-----	Dibenzo (a, h) anthracene	680	U
191-24-2-----	Benzo (g, h, i) perylene	680	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL906

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096995A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 4

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.48	7700	JAB 7
2.	UNKNOWN	15.79	240	J
3.	UNKNOWN	17.63	230	J
4.	UNKNOWN	17.82	190	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL907

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096996A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 43

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
---------	----------	---	---

74-87-3	Chloromethane	18	UJ
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	14	UJ
67-64-1	Acetone	18	UJ
75-15-0	Carbon Disulfide	18	U
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	18	UJ
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-01-5	cis-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	UJ
108-10-1	4-Methyl-2-Pentanone	18	U
591-78-6	2-Hexanone	18	UJ
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	18	U
108-90-7	Chlorobenzene	18	U
100-41-4	Ethylbenzene	18	U
100-42-5	Styrene	18	U
1330-20-7	Xylene (Total)	18	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL907

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096996A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 43

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL907

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895
Matrix: (soil/water) SOIL Lab Sample ID: 796996
Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096996A02
Level: (low/med) LOW Date Received: 04/15/96
% Moisture: 43 decanted: (Y/N) N Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	580	U
111-44-4	bis(2-Chloroethyl) ether	580	U
95-57-8	2-Chlorophenol	580	U
541-73-1	1,3-Dichlorobenzene	580	U
106-46-7	1,4-Dichlorobenzene	580	U
95-50-1	1,2-Dichlorobenzene	580	U
95-48-7	2-Methylphenol	580	U
108-60-1	2,2'-oxybis(1-Chloropropane)	580	U
106-44-5	4-Methylphenol	580	U
621-64-7	N-Nitroso-di-n-propylamine	580	U
67-72-1	Hexachloroethane	580	U
98-95-3	Nitrobenzene	580	U
78-59-1	Isophorone	580	U
88-75-5	2-Nitrophenol	580	U
105-67-9	2,4-Dimethylphenol	580	U
111-91-1	bis(2-Chloroethoxy)methane	580	U
120-83-2	2,4-Dichlorophenol	580	U
120-82-1	1,2,4-Trichlorobenzene	580	U
91-20-3	Naphthalene	580	U
106-47-8	4-Chloroaniline	580	U
87-68-3	Hexachlorobutadiene	580	U
59-50-7	4-Chloro-3-methylphenol	580	U
91-57-6	2-Methylnaphthalene	580	U
77-47-4	Hexachlorocyclopentadiene	580	U
88-06-2	2,4,6-Trichlorophenol	580	U
95-95-4	2,4,5-Trichlorophenol	1400	U
91-58-7	2-Chloronaphthalene	580	U
88-74-4	2-Nitroaniline	1400	U
131-11-3	Dimethylphthalate	580	U
208-96-8	Acenaphthylene	580	U
606-20-2	2,6-Dinitrotoluene	580	U
99-09-2	3-Nitroaniline	1400	U
83-32-9	Acenaphthene	580	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL907

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL Lab Sample ID: 796996

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096996A02

Level: (low/med) LOW Date Received: 04/15/96

% Moisture: 43 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5-----	2,4-Dinitrophenol	1400	U
100-02-7-----	4-Nitrophenol	1400	U
132-64-9-----	Dibenzofuran	580	U
121-14-2-----	2,4-Dinitrotoluene	580	U
84-66-2-----	Diethylphthalate	580	U
7005-72-3-----	4-Chlorophenyl-phenylether	580	U
86-73-7-----	Fluorene	580	U
100-01-6-----	4-Nitroaniline	1400	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1400	U
86-30-6-----	N-nitrosodiphenylamine (1)	580	U
101-55-3-----	4-Bromophenyl-phenylether	580	U
118-74-1-----	Hexachlorobenzene	580	U
87-86-5-----	Pentachlorophenol	1400	U
85-01-8-----	Phenanthrene	580	U
120-12-7-----	Anthracene	580	U
86-74-8-----	Carbazole	580	U
84-74-2-----	Di-n-butylphthalate	580	U
206-44-0-----	Fluoranthene	580	U
129-00-0-----	Pyrene	580	U
85-68-7-----	Butylbenzylphthalate	580	U
91-94-1-----	3,3'-Dichlorobenzidine	580	U
56-55-3-----	Benzo (a) anthracene	580	U
218-01-9-----	Chrysene	580	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	88	J
117-84-0-----	Di-n-octylphthalate	580	U
205-99-2-----	Benzo (b) fluoranthene	580	U
207-08-9-----	Benzo (k) fluoranthene	580	U
50-32-8-----	Benzo (a) pyrene	580	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	580	U
53-70-3-----	Dibenzo (a,h) anthracene	580	U
191-24-2-----	Benzo (g,h,i) perylene	580	U

(1) - Cannot be separated from Diphenylamine

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42

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL907

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: GH096996A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 43 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 9

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.48	7000	JAB R
2.	UNKNOWN	4.69	120	J
3.	UNKNOWN ALCOHOL	15.80	240	J
4.	UNKNOWN ALCOHOL	16.40	120	J
5.	UNKNOWN	17.63	360	J
6.	UNKNOWN	17.82	280	J
7.	UNKNOWN	24.89	250	J
8.	UNKNOWN	24.92	140	J
9.	UNKNOWN	25.92	360	J
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40

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096766A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 33

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	15	U
74-83-9-----	Bromomethane	15	U
75-01-4-----	Vinyl Chloride	15	U
75-00-3-----	Chloroethane	15	U
75-09-2-----	Methylene Chloride	14	JB 4J
67-64-1-----	Acetone	5	JB 4J
75-15-0-----	Carbon Disulfide	15	U
75-35-4-----	1,1-Dichloroethene	15	U
75-34-3-----	1,1-Dichloroethane	15	U
540-59-0-----	1,2-Dichloroethene (total)	15	U
67-66-3-----	Chloroform	15	U
107-06-2-----	1,2-Dichloroethane	15	U
78-93-3-----	2-Butanone	15	U
71-55-6-----	1,1,1-Trichloroethane	15	U
56-23-5-----	Carbon Tetrachloride	15	U
75-27-4-----	Bromodichloromethane	15	U
78-87-5-----	1,2-Dichloropropane	15	U
10061-01-5-----	cis-1,3-Dichloropropene	15	U
79-01-6-----	Trichloroethene	15	U
124-48-1-----	Dibromochloromethane	15	U
79-00-5-----	1,1,2-Trichloroethane	15	U
71-43-2-----	Benzene	15	U
10061-02-6-----	trans-1,3-Dichloropropene	15	U
75-25-2-----	Bromoform	15	U
108-10-1-----	4-Methyl-2-Pentanone	15	U
591-78-6-----	2-Hexanone	15	U
127-18-4-----	Tetrachloroethene	15	U
79-34-5-----	1,1,2,2-Tetrachloroethane	15	U
108-88-3-----	Toluene	15	U
108-90-7-----	Chlorobenzene	15	U
100-41-4-----	Ethylbenzene	15	U
100-42-5-----	Styrene	15	U
1330-20-7-----	Xylene (Total)	15	U

FORM I VOA

OLM03.0

00042

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096766A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 33

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.83	32	JB R
2.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
Matrix: (soil/water) SOIL Lab Sample ID: 796766
Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096766C04
Level: (low/med) LOW Date Received: 04/12/96
% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	490	U
111-44-4	bis(2-Chloroethyl) ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
108-60-1	2,2'-oxybis(1-Chloropropane)	490	U
106-44-5	4-Methylphenol	490	U
621-64-7	N-Nitroso-di-n-propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
111-91-1	bis(2-Chloroethoxy) methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	U
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	490	U
208-96-8	Acenaphthylene	490	U
606-20-2	2,6-Dinitrotoluene	490	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	490	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796766

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096766C04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1200	U
100-02-7-----	4-Nitrophenol	1200	U
132-64-9-----	Dibenzofuran	490	U
121-14-2-----	2,4-Dinitrotoluene	490	U
84-66-2-----	Diethylphthalate	490	U
7005-72-3-----	4-Chlorophenyl-phenylether	490	U
86-73-7-----	Fluorene	490	U
100-01-6-----	4-Nitroaniline	1200	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200	U
86-30-6-----	N-nitrosodiphenylamine (1)	490	U
101-55-3-----	4-Bromophenyl-phenylether	490	U
118-74-1-----	Hexachlorobenzene	490	U
87-86-5-----	Pentachlorophenol	1200	UJ
85-01-8-----	Phenanthrene	490	U
120-12-7-----	Anthracene	490	U
86-74-8-----	Carbazole	490	U
84-74-2-----	Di-n-butylphthalate	490	U
206-44-0-----	Fluoranthene	490	U
129-00-0-----	Pyrene	490	U
85-68-7-----	Butylbenzylphthalate	490	U
91-94-1-----	3,3'-Dichlorobenzidine	490	U
56-55-3-----	Benzo(a)anthracene	490	U
218-01-9-----	Chrysene	490	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	56	J
117-84-0-----	Di-n-octylphthalate	490	U
205-99-2-----	Benzo(b)fluoranthene	490	U
207-08-9-----	Benzo(k)fluoranthene	490	U
50-32-8-----	Benzo(a)pyrene	490	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	490	U
53-70-3-----	Dibenzo(a,h)anthracene	490	U
191-24-2-----	Benzo(g,h,i)perylene	490	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796766

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096766C04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.73	21000	JAB R
2.	UNKNOWN (BC)	5.51	1000	JB
3.	LABORATORY ARTIFACT	11.07	150	J ↓
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FORM I SV-TIC

OLM03.0
00087

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR096768B54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 51

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	20	U
74-83-9-----	Bromomethane	20	U
75-01-4-----	Vinyl Chloride	20	U
75-00-3-----	Chloroethane	20	U
75-09-2-----	Methylene Chloride	24	B UJ
67-64-1-----	Acetone	13	JB UJ
75-15-0-----	Carbon Disulfide	20	U
75-35-4-----	1,1-Dichloroethene	20	U
75-34-3-----	1,1-Dichloroethane	20	U
540-59-0-----	1,2-Dichloroethene (total)	20	U
67-66-3-----	Chloroform	20	U
107-06-2-----	1,2-Dichloroethane	20	U
78-93-3-----	2-Butanone	20	U
71-55-6-----	1,1,1-Trichloroethane	20	U
56-23-5-----	Carbon Tetrachloride	20	U
75-27-4-----	Bromodichloromethane	20	U
78-87-5-----	1,2-Dichloropropane	20	U
10061-01-5-----	cis-1,3-Dichloropropene	20	U
79-01-6-----	Trichloroethene	20	U
124-48-1-----	Dibromochloromethane	20	U
79-00-5-----	1,1,2-Trichloroethane	20	U
71-43-2-----	Benzene	20	U
10061-02-6-----	trans-1,3-Dichloropropene	20	U
75-25-2-----	Bromoform	20	U
108-10-1-----	4-Methyl-2-Pentanone	20	U
591-78-6-----	2-Hexanone	20	U
127-18-4-----	Tetrachloroethene	20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	20	U
108-88-3-----	Toluene	20	U
108-90-7-----	Chlorobenzene	20	U
100-41-4-----	Ethylbenzene	20	U
100-42-5-----	Styrene	20	U
1330-20-7-----	Xylene (Total)	20	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR096768B54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 51

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.82	154	JB R
2.				
3.				
4.				
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FORM I VOA-TIC

OLM03.0

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796768

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096768C04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	580	U
111-44-4-----	bis(2-Chloroethyl) ether	580	U
95-57-8-----	2-Chlorophenol	580	U
541-73-1-----	1,3-Dichlorobenzene	580	U
106-46-7-----	1,4-Dichlorobenzene	580	U
95-50-1-----	1,2-Dichlorobenzene	580	U
95-48-7-----	2-Methylphenol	580	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	580	U
106-44-5-----	4-Methylphenol	580	U
621-64-7-----	N-Nitroso-di-n-propylamine	580	U
67-72-1-----	Hexachloroethane	580	U
98-95-3-----	Nitrobenzene	580	U
78-59-1-----	Isophorone	580	U
88-75-5-----	2-Nitrophenol	580	U
105-67-9-----	2,4-Dimethylphenol	580	U
111-91-1-----	bis(2-Chloroethoxy) methane	580	U
120-83-2-----	2,4-Dichlorophenol	580	U
120-82-1-----	1,2,4-Trichlorobenzene	580	U
91-20-3-----	Naphthalene	580	U
106-47-8-----	4-Chloroaniline	580	UJ
87-68-3-----	Hexachlorobutadiene	580	U
59-50-7-----	4-Chloro-3-methylphenol	580	U
91-57-6-----	2-Methylnaphthalene	580	U
77-47-4-----	Hexachlorocyclopentadiene	580	U
88-06-2-----	2,4,6-Trichlorophenol	580	U
95-95-4-----	2,4,5-Trichlorophenol	1400	U
91-58-7-----	2-Chloronaphthalene	580	U
88-74-4-----	2-Nitroaniline	1400	U
131-11-3-----	Dimethylphthalate	580	U
208-96-8-----	Acenaphthylene	580	U
606-20-2-----	2,6-Dinitrotoluene	580	U
99-09-2-----	3-Nitroaniline	1400	U
83-32-9-----	Acenaphthene	580	U

FORM I SV-1

OLM03.0

Smiley
00088

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
Matrix: (soil/water) SOIL Lab Sample ID: 796768
Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096768C04
Level: (low/med) LOW Date Received: 04/12/96
% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1400	U
100-02-7-----	4-Nitrophenol	1400	U
132-64-9-----	Dibenzofuran	580	U
121-14-2-----	2,4-Dinitrotoluene	580	U
84-66-2-----	Diethylphthalate	580	U
7005-72-3-----	4-Chlorophenyl-phenylether	580	U
86-73-7-----	Fluorene	580	U
100-01-6-----	4-Nitroaniline	1400	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1400	U
86-30-6-----	N-nitrosodiphenylamine (1)	580	U
101-55-3-----	4-Bromophenyl-phenylether	580	U
118-74-1-----	Hexachlorobenzene	580	U
87-86-5-----	Pentachlorophenol	1400	U
85-01-8-----	Phenanthrene	580	U
120-12-7-----	Anthracene	580	U
86-74-8-----	Carbazole	580	U
84-74-2-----	Di-n-butylphthalate	580	U
206-44-0-----	Fluoranthene	580	U
129-00-0-----	Pyrene	580	U
85-68-7-----	Butylbenzylphthalate	580	U
91-94-1-----	3,3'-Dichlorobenzidine	580	U
56-55-3-----	Benzo(a)anthracene	580	U
218-01-9-----	Chrysene	580	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	71	J
117-84-0-----	Di-n-octylphthalate	580	U
205-99-2-----	Benzo(b)fluoranthene	580	U
207-08-9-----	Benzo(k)fluoranthene	580	U
50-32-8-----	Benzo(a)pyrene	580	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	580	U
53-70-3-----	Dibenzo(a,h)anthracene	580	U
191-24-2-----	Benzo(g,h,i)perylene	580	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796768

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096768C04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 11

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.74	31000	JAB L
2.	UNKNOWN	5.18	120	JN
3.	UNKNOWN (BC)	5.51	1400	JB R
4.	LABORATORY ARTIFACT	11.07	320	J R
5.	UNKNOWN	13.33	120	JN
6.	UNKNOWN	13.78	980	J
7.	UNKNOWN	14.34	2000	J
8. 7343-06-8	PHENANTHRENE, 3,4,5,6-TETRAM	15.06	140	NJ
9.	UNKNOWN ALCOHOL	16.41	180	J
10.	UNKNOWN	17.75	200	J
11.	UNKNOWN	18.65	140	JN
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL910

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096769A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	24	U
74-83-9-----	Bromomethane	24	U
75-01-4-----	Vinyl Chloride	24	U
75-00-3-----	Chloroethane	24	U
75-09-2-----	Methylene Chloride	28	B UJ
67-64-1-----	Acetone	9	JB UJ
75-15-0-----	Carbon Disulfide	24	U
75-35-4-----	1,1-Dichloroethene	24	U
75-34-3-----	1,1-Dichloroethane	24	U
540-59-0-----	1,2-Dichloroethene (total)	24	U
67-66-3-----	Chloroform	24	U
107-06-2-----	1,2-Dichloroethane	24	U
78-93-3-----	2-Butanone	24	U
71-55-6-----	1,1,1-Trichloroethane	24	U
56-23-5-----	Carbon Tetrachloride	24	U
75-27-4-----	Bromodichloromethane	24	U
78-87-5-----	1,2-Dichloropropane	24	U
10061-01-5-----	cis-1,3-Dichloropropene	24	U
79-01-6-----	Trichloroethene	24	U
124-48-1-----	Dibromochloromethane	24	U
79-00-5-----	1,1,2-Trichloroethane	24	U
71-43-2-----	Benzene	24	U
10061-02-6-----	trans-1,3-Dichloropropene	24	U
75-25-2-----	Bromoform	24	U
108-10-1-----	4-Methyl-2-Pentanone	24	U
591-78-6-----	2-Hexanone	24	U
127-18-4-----	Tetrachloroethene	24	U
79-34-5-----	1,1,2,2-Tetrachloroethane	24	U
108-88-3-----	Toluene	24	U
108-90-7-----	Chlorobenzene	24	U
100-41-4-----	Ethylbenzene	24	U
100-42-5-----	Styrene	24	U
1330-20-7-----	Xylene (Total)	24	U

FORM I VOA

OLM03.0

00046

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL910

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096769A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	97	JB R
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL910

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796769

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096769B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 54 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	700	U
111-44-4-----	bis(2-Chloroethyl) ether	700	U
95-57-8-----	2-Chlorophenol	700	U
541-73-1-----	1,3-Dichlorobenzene	700	U
106-46-7-----	1,4-Dichlorobenzene	700	U
95-50-1-----	1,2-Dichlorobenzene	700	U
95-48-7-----	2-Methylphenol	700	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	700	U
106-44-5-----	4-Methylphenol	700	U
621-64-7-----	N-Nitroso-di-n-propylamine	700	U
67-72-1-----	Hexachloroethane	700	U
98-95-3-----	Nitrobenzene	700	U
78-59-1-----	Isophorone	700	U
88-75-5-----	2-Nitrophenol	700	U
105-67-9-----	2,4-Dimethylphenol	700	U
111-91-1-----	bis(2-Chloroethoxy) methane	700	U
120-83-2-----	2,4-Dichlorophenol	700	U
120-82-1-----	1,2,4-Trichlorobenzene	700	U
91-20-3-----	Naphthalene	700	U
106-47-8-----	4-Chloroaniline	700	UJ
87-68-3-----	Hexachlorobutadiene	700	U
59-50-7-----	4-Chloro-3-methylphenol	700	U
91-57-6-----	2-Methylnaphthalene	700	U
77-47-4-----	Hexachlorocyclopentadiene	700	U
88-06-2-----	2,4,6-Trichlorophenol	700	U
95-95-4-----	2,4,5-Trichlorophenol	1800	U
91-58-7-----	2-Chloronaphthalene	700	U
88-74-4-----	2-Nitroaniline	1800	U
131-11-3-----	Dimethylphthalate	700	U
208-96-8-----	Acenaphthylene	700	U
606-20-2-----	2,6-Dinitrotoluene	700	U
99-09-2-----	3-Nitroaniline	1800	U
83-32-9-----	Acenaphthene	700	U

FORM I. SV-1

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL910

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796769

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096769B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 54 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
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51-28-5-----	2,4-Dinitrophenol	1800	U
100-02-7-----	4-Nitrophenol	1800	U
132-64-9-----	Dibenzofuran	700	U
121-14-2-----	2,4-Dinitrotoluene	700	U
84-66-2-----	Diethylphthalate	700	U
7005-72-3-----	4-Chlorophenyl-phenylether	700	U
86-73-7-----	Fluorene	700	U
100-01-6-----	4-Nitroaniline	1800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1800	U
86-30-6-----	N-nitrosodiphenylamine (1)	700	U
101-55-3-----	4-Bromophenyl-phenylether	700	U
118-74-1-----	Hexachlorobenzene	700	U
87-86-5-----	Pentachlorophenol	1800	U
85-01-8-----	Phenanthrene	700	U
120-12-7-----	Anthracene	700	U
86-74-8-----	Carbazole	700	U
84-74-2-----	Di-n-butylphthalate	700	U
206-44-0-----	Fluoranthene	700	U
129-00-0-----	Pyrene	700	U
85-68-7-----	Butylbenzylphthalate	700	U
91-94-1-----	3,3'-Dichlorobenzidine	700	U
56-55-3-----	Benzo(a)anthracene	700	U
218-01-9-----	Chrysene	700	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	700	U
117-84-0-----	Di-n-octylphthalate	700	U
205-99-2-----	Benzo(b)fluoranthene	700	U
207-08-9-----	Benzo(k)fluoranthene	700	U
50-32-8-----	Benzo(a)pyrene	700	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	700	U
53-70-3-----	Dibenzo(a,h)anthracene	700	U
191-24-2-----	Benzo(g,h,i)perylene	700	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL910

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796769

Sample wt/vol: 30.5 (g/mL) g Lab File ID: GH096769B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 54 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.75	17000	JAB
2.	UNKNOWN (BC)	5.55	630	JB
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL911

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096771A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 53

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
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74-87-3-----	Chloromethane	21	U
74-83-9-----	Bromomethane	21	U
75-01-4-----	Vinyl Chloride	21	U
75-00-3-----	Chloroethane	21	U
75-09-2-----	Methylene Chloride	20	JB UJ
67-64-1-----	Acetone	11	JB UJ
75-15-0-----	Carbon Disulfide	21	U
75-35-4-----	1,1-Dichloroethene	21	U
75-34-3-----	1,1-Dichloroethane	21	U
540-59-0-----	1,2-Dichloroethene (total)	21	U
67-66-3-----	Chloroform	21	U
107-06-2-----	1,2-Dichloroethane	21	U
78-93-3-----	2-Butanone	21	U
71-55-6-----	1,1,1-Trichloroethane	21	U
56-23-5-----	Carbon Tetrachloride	21	U
75-27-4-----	Bromodichloromethane	21	U
78-87-5-----	1,2-Dichloropropane	21	U
10061-01-5-----	cis-1,3-Dichloropropene	21	U
79-01-6-----	Trichloroethene	21	U
124-48-1-----	Dibromochloromethane	21	U
79-00-5-----	1,1,2-Trichloroethane	21	U
71-43-2-----	Benzene	21	U
10061-02-6-----	trans-1,3-Dichloropropene	21	U
75-25-2-----	Bromoform	21	U
108-10-1-----	4-Methyl-2-Pentanone	21	U
591-78-6-----	2-Hexanone	21	U
127-18-4-----	Tetrachloroethene	21	U
79-34-5-----	1,1,2,2-Tetrachloroethane	21	U
108-88-3-----	Toluene	21	U
108-90-7-----	Chlorobenzene	21	U
100-41-4-----	Ethylbenzene	21	U
100-42-5-----	Styrene	21	U
1330-20-7-----	Xylene (Total)	21	U

FORM I VOA

OLM03.0

00048

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL911

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096771A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 53

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.84	215	JB R
2.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL911

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096771B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	620 U	
111-44-4	bis(2-Chloroethyl) ether	620 U	
95-57-8	2-Chlorophenol	620 U	
541-73-1	1,3-Dichlorobenzene	620 U	
106-46-7	1,4-Dichlorobenzene	620 U	
95-50-1	1,2-Dichlorobenzene	620 U	
95-48-7	2-Methylphenol	620 U	
108-60-1	2,2'-oxybis(1-Chloropropane)	620 U	
106-44-5	4-Methylphenol	620 U	
621-64-7	N-Nitroso-di-n-propylamine	620 U	
67-72-1	Hexachloroethane	620 U	
98-95-3	Nitrobenzene	620 U	
78-59-1	Isophorone	620 U	
88-75-5	2-Nitrophenol	620 U	
105-67-9	2,4-Dimethylphenol	620 U	
111-91-1	bis(2-Chloroethoxy)methane	620 U	
120-83-2	2,4-Dichlorophenol	620 U	
120-82-1	1,2,4-Trichlorobenzene	620 U	
91-20-3	Naphthalene	620 U	
106-47-8	4-Chloroaniline	620 UJ	
87-68-3	Hexachlorobutadiene	620 U	
59-50-7	4-Chloro-3-methylphenol	620 U	
91-57-6	2-Methylnaphthalene	620 U	
77-47-4	Hexachlorocyclopentadiene	620 U	
88-06-2	2,4,6-Trichlorophenol	620 U	
95-95-4	2,4,5-Trichlorophenol	1600 U	
91-58-7	2-Chloronaphthalene	620 U	
88-74-4	2-Nitroaniline	1600 U	
131-11-3	Dimethylphthalate	620 U	
208-96-8	Acenaphthylene	620 U	
606-20-2	2,6-Dinitrotoluene	620 U	
99-09-2	3-Nitroaniline	1600 U	
83-32-9	Acenaphthene	620 U	

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04/24/96
0094

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL911

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096771B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5-----	2,4-Dinitrophenol	1600	U
100-02-7-----	4-Nitrophenol	1600	U
132-64-9-----	Dibenzofuran	620	U
121-14-2-----	2,4-Dinitrotoluene	620	U
84-66-2-----	Diethylphthalate	620	U
7005-72-3-----	4-Chlorophenyl-phenylether	620	U
86-73-7-----	Fluorene	620	U
100-01-6-----	4-Nitroaniline	1600	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1600	U
86-30-6-----	N-nitrosodiphenylamine (1)	620	U
101-55-3-----	4-Bromophenyl-phenylether	620	U
118-74-1-----	Hexachlorobenzene	620	U
87-86-5-----	Pentachlorophenol	1600	UJ
85-01-8-----	Phenanthrene	620	U
120-12-7-----	Anthracene	620	U
86-74-8-----	Carbazole	620	U
84-74-2-----	Di-n-butylphthalate	620	U
206-44-0-----	Fluoranthene	620	U
129-00-0-----	Pyrene	620	U
85-68-7-----	Butylbenzylphthalate	620	U
91-94-1-----	3,3'-Dichlorobenzidine	620	U
56-55-3-----	Benzo(a)anthracene	620	U
218-01-9-----	Chrysene	620	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	620	U
117-84-0-----	Di-n-octylphthalate	620	U
205-99-2-----	Benzo(b)fluoranthene	620	U
207-08-9-----	Benzo(k)fluoranthene	620	U
50-32-8-----	Benzo(a)pyrene	620	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	620	U
53-70-3-----	Dibenzo(a,h)anthracene	620	U
191-24-2-----	Benzo(g,h,i)perylene	620	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL911

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096771B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.75	18000	JAB <i>2</i>
2.	UNKNOWN (BC)	5.55	740	JB <i>2</i>
3.	LABORATORY ARTIFACT	11.12	160	JR
4.	UNKNOWN ALCOHOL	16.52	350	JN
5.	UNKNOWN	18.04	130	J
6.	UNKNOWN	18.86	250	J <i>↓</i>
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FORM I SV-TIC

OLM03.0

00096

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL913

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796341

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096341A54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 58

Date Analyzed: 04/18/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

74-87-3-----	Chloromethane	24	U
74-83-9-----	Bromomethane	24	U
75-01-4-----	Vinyl Chloride	24	U
75-00-3-----	Chloroethane	24	U
75-09-2-----	Methylene Chloride	19	JB UJ
67-64-1-----	Acetone	9	JB UJ
75-15-0-----	Carbon Disulfide	24	U
75-35-4-----	1,1-Dichloroethene	24	U
75-34-3-----	1,1-Dichloroethane	24	U
540-59-0-----	1,2-Dichloroethene (total)	24	U
67-66-3-----	Chloroform	24	U
107-06-2-----	1,2-Dichloroethane	24	U
78-93-3-----	2-Butanone	24	U
71-55-6-----	1,1,1-Trichloroethane	24	U
56-23-5-----	Carbon Tetrachloride	24	U
75-27-4-----	Bromodichloromethane	24	U
78-87-5-----	1,2-Dichloropropane	24	U
10061-01-5-----	cis-1,3-Dichloropropene	24	U
79-01-6-----	Trichloroethene	24	U
124-48-1-----	Dibromochloromethane	24	U
79-00-5-----	1,1,2-Trichloroethane	24	U
71-43-2-----	Benzene	24	U
10061-02-6-----	trans-1,3-Dichloropropene	24	U
75-25-2-----	Bromoform	24	U
108-10-1-----	4-Methyl-2-Pentanone	24	U
591-78-6-----	2-Hexanone	24	U
127-18-4-----	Tetrachloroethene	24	U
79-34-5-----	1,1,2,2-Tetrachloroethane	24	U
108-88-3-----	Toluene	24	U
108-90-7-----	Chlorobenzene	24	U
100-41-4-----	Ethylbenzene	24	U
100-42-5-----	Styrene	24	U
1330-20-7-----	Xylene (Total)	24	U

FORM I VOA

OLM03.0

00050

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL913

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796341

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096341A54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 58

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	150	JB R
2.	LABORATORY ARTIFACT	17.68	20	JB R
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FORM I VOA-TIC

OLM03.0

00051

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL913

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096341B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

108-95-2-----Phenol	700	U
111-44-4-----bis(2-Chloroethyl) ether	700	U
95-57-8-----2-Chlorophenol	700	U
541-73-1-----1,3-Dichlorobenzene	700	U
106-46-7-----1,4-Dichlorobenzene	700	U
95-50-1-----1,2-Dichlorobenzene	700	U
95-48-7-----2-Methylphenol	700	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	700	U
106-44-5-----4-Methylphenol	700	U
621-64-7-----N-Nitroso-di-n-propylamine	700	U
67-72-1-----Hexachloroethane	700	U
98-95-3-----Nitrobenzene	700	U
78-59-1-----Isophorone	700	U
88-75-5-----2-Nitrophenol	700	U
105-67-9-----2,4-Dimethylphenol	700	U
111-91-1-----bis(2-Chloroethoxy) methane	700	U
120-83-2-----2,4-Dichlorophenol	700	U
120-82-1-----1,2,4-Trichlorobenzene	700	U
91-20-3-----Naphthalene	700	U
106-47-8-----4-Chloroaniline	700	U
87-68-3-----Hexachlorobutadiene	700	U
59-50-7-----4-Chloro-3-methylphenol	700	U
91-57-6-----2-Methylnaphthalene	700	U
77-47-4-----Hexachlorocyclopentadiene	700	U
88-06-2-----2,4,6-Trichlorophenol	700	U
95-95-4-----2,4,5-Trichlorophenol	1800	U
91-58-7-----2-Chloronaphthalene	700	U
88-74-4-----2-Nitroaniline	1800	U
131-11-3-----Dimethylphthalate	700	U
208-96-8-----Acenaphthylene	700	U
606-20-2-----2,6-Dinitrotoluene	700	U
99-09-2-----3-Nitroaniline	1800	U
83-32-9-----Acenaphthene	700	U

FORM I SV-1

OLM03.0

00097

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL913

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096341B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	1800	U
100-02-7-----	4-Nitrophenol	1800	U
132-64-9-----	Dibenzofuran	700	U
121-14-2-----	2,4-Dinitrotoluene	700	U
84-66-2-----	Diethylphthalate	700	U
7005-72-3-----	4-Chlorophenyl-phenylether	700	U
86-73-7-----	Fluorene	700	U
100-01-6-----	4-Nitroaniline	1800	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1800	U
86-30-6-----	N-nitrosodiphenylamine (1)	700	U
101-55-3-----	4-Bromophenyl-phenylether	700	U
118-74-1-----	Hexachlorobenzene	700	U
87-86-5-----	Pentachlorophenol	1800	UJ
85-01-8-----	Phenanthrene	700	U
120-12-7-----	Anthracene	700	U
86-74-8-----	Carbazole	700	U
84-74-2-----	Di-n-butylphthalate	700	U
206-44-0-----	Fluoranthene	700	U
129-00-0-----	Pyrene	700	U
85-68-7-----	Butylbenzylphthalate	700	U
91-94-1-----	3,3'-Dichlorobenzidine	700	U
56-55-3-----	Benzo(a)anthracene	700	U
218-01-9-----	Chrysene	700	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	72	J
117-84-0-----	Di-n-octylphthalate	700	U
205-99-2-----	Benzo(b)fluoranthene	700	U
207-08-9-----	Benzo(k)fluoranthene	700	U
50-32-8-----	Benzo(a)pyrene	700	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	700	U
53-70-3-----	Dibenzo(a,h)anthracene	700	U
191-24-2-----	Benzo(g,h,i)perylene	700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

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00098

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL913

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096341B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.76	29000	JAB R
2.	UNKNOWN (BC)	5.55	1300	JB
3.	LABORATORY ARTIFACT	11.12	190	J
4.	LABORATORY ARTIFACT	15.84	220	J
5.	UNKNOWN	17.89	350	JN
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FORM I SV-TIC

OLM03.0

00099

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096773A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	24	U	
74-83-9-----	Bromomethane	24	U	
75-01-4-----	Vinyl Chloride	24	U	
75-00-3-----	Chloroethane	24	U	
75-09-2-----	Methylene Chloride	19	JB	U
67-64-1-----	Acetone	9	JB	U
75-15-0-----	Carbon Disulfide	24	U	
75-35-4-----	1,1-Dichloroethene	24	U	
75-34-3-----	1,1-Dichloroethane	24	U	
540-59-0-----	1,2-Dichloroethene (total)	24	U	
67-66-3-----	Chloroform	24	U	
107-06-2-----	1,2-Dichloroethane	24	U	
78-93-3-----	2-Butanone	24	U	
71-55-6-----	1,1,1-Trichloroethane	24	U	
56-23-5-----	Carbon Tetrachloride	24	U	
75-27-4-----	Bromodichloromethane	24	U	
78-87-5-----	1,2-Dichloropropane	24	U	
10061-01-5-----	cis-1,3-Dichloropropene	24	U	
79-01-6-----	Trichloroethene	24	U	
124-48-1-----	Dibromochloromethane	24	U	
79-00-5-----	1,1,2-Trichloroethane	24	U	
71-43-2-----	Benzene	24	U	
10061-02-6-----	trans-1,3-Dichloropropene	24	U	
75-25-2-----	Bromoform	24	U	
108-10-1-----	4-Methyl-2-Pentanone	24	U	
591-78-6-----	2-Hexanone	24	U	
127-18-4-----	Tetrachloroethene	24	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	24	U	
108-88-3-----	Toluene	24	U	
108-90-7-----	Chlorobenzene	24	U	
100-41-4-----	Ethylbenzene	24	U	
100-42-5-----	Styrene	24	U	
1330-20-7-----	Xylene (Total)	24	U	

FORM I VOA

OLM03.0

00052

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096773A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.86	157	JB R
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096773B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 59 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
---------	----------	---	---

108-95-2-----	Phenol	790	U
111-44-4-----	bis(2-Chloroethyl) ether	790	U
95-57-8-----	2-Chlorophenol	790	U
541-73-1-----	1,3-Dichlorobenzene	790	U
106-46-7-----	1,4-Dichlorobenzene	790	U
95-50-1-----	1,2-Dichlorobenzene	790	U
95-48-7-----	2-Methylphenol	790	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	790	U
106-44-5-----	4-Methylphenol	790	U
621-64-7-----	N-Nitroso-di-n-propylamine	790	U
67-72-1-----	Hexachloroethane	790	U
98-95-3-----	Nitrobenzene	790	U
78-59-1-----	Isophorone	790	U
88-75-5-----	2-Nitrophenol	790	U
105-67-9-----	2,4-Dimethylphenol	790	U
111-91-1-----	bis(2-Chloroethoxy) methane	790	U
120-83-2-----	2,4-Dichlorophenol	790	U
120-82-1-----	1,2,4-Trichlorobenzene	790	U
91-20-3-----	Naphthalene	790	U
106-47-8-----	4-Chloroaniline	790	U
87-68-3-----	Hexachlorobutadiene	790	U
59-50-7-----	4-Chloro-3-methylphenol	790	U
91-57-6-----	2-Methylnaphthalene	790	U
77-47-4-----	Hexachlorocyclopentadiene	790	U
88-06-2-----	2,4,6-Trichlorophenol	790	U
95-95-4-----	2,4,5-Trichlorophenol	2000	U
91-58-7-----	2-Chloronaphthalene	790	U
88-74-4-----	2-Nitroaniline	2000	U
131-11-3-----	Dimethylphthalate	790	U
208-96-8-----	Acenaphthylene	790	U
606-20-2-----	2,6-Dinitrotoluene	790	U
99-09-2-----	3-Nitroaniline	2000	U
83-32-9-----	Acenaphthene	790	U

me 4/21/96 00100

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
 Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
 Matrix: (soil/water) SOIL Lab Sample ID: 796773
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: GH096773B04
 Level: (low/med) LOW Date Received: 04/12/96
 % Moisture: 59 decanted: (Y/N) Y Date Extracted: 04/17/96
 Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:
 CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-5-----	2,4-Dinitrophenol	2000	U
100-02-7-----	4-Nitrophenol	2000	U
132-64-9-----	Dibenzofuran	790	U
121-14-2-----	2,4-Dinitrotoluene	790	U
84-66-2-----	Diethylphthalate	790	U
7005-72-3-----	4-Chlorophenyl-phenylether	790	U
86-73-7-----	Fluorene	790	U
100-01-6-----	4-Nitroaniline	2000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	2000	U
86-30-6-----	N-nitrosodiphenylamine (1)	790	U
101-55-3-----	4-Bromophenyl-phenylether	790	U
118-74-1-----	Hexachlorobenzene	790	U
87-86-5-----	Pentachlorophenol	2000	U
85-01-8-----	Phenanthrene	790	U
120-12-7-----	Anthracene	790	U
86-74-8-----	Carbazole	790	U
84-74-2-----	Di-n-butylphthalate	790	U
206-44-0-----	Fluoranthene	790	U
129-00-0-----	Pyrene	790	U
85-68-7-----	Butylbenzylphthalate	790	U
91-94-1-----	3,3'-Dichlorobenzidine	790	U
56-55-3-----	Benzo(a)anthracene	790	U
218-01-9-----	Chrysene	790	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	100	J
117-84-0-----	Di-n-octylphthalate	790	U
205-99-2-----	Benzo(b)fluoranthene	790	U
207-08-9-----	Benzo(k)fluoranthene	790	U
50-32-8-----	Benzo(a)pyrene	790	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	790	U
53-70-3-----	Dibenzo(a,h)anthracene	790	U
191-24-2-----	Benzo(g,h,i)perylene	790	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

00101

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796773

Sample wt/vol: 30.4 (g/mL) g Lab File ID: GH096773B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 59 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.77	29000	JAB
2.	UNKNOWN (BC)	5.56	1400	JB
3.	LABORATORY ARTIFACT	11.12	300	J
4.	UNKNOWN	12.86	280	JN
5.	UNKNOWN	14.21	220	J
6.	UNKNOWN	15.02	330	J
7.	UNKNOWN ALCOHOL	16.49	610	J
8.	UNKNOWN	18.82	230	J
9.	UNKNOWN	18.85	220	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL915

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796775

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096775A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 48

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) ug/Kg

Q

74-87-3-----	Chloromethane	19	U
74-83-9-----	Bromomethane	19	U
75-01-4-----	Vinyl Chloride	19	U
75-00-3-----	Chloroethane	19	U
75-09-2-----	Methylene Chloride	25	B UJ
67-64-1-----	Acetone	10	JB UJ
75-15-0-----	Carbon Disulfide	19	U
75-35-4-----	1,1-Dichloroethene	19	U
75-34-3-----	1,1-Dichloroethane	19	U
540-59-0-----	1,2-Dichloroethene (total)	19	U
67-66-3-----	Chloroform	19	U
107-06-2-----	1,2-Dichloroethane	19	U
78-93-3-----	2-Butanone	19	U
71-55-6-----	1,1,1-Trichloroethane	19	U
56-23-5-----	Carbon Tetrachloride	19	U
75-27-4-----	Bromodichloromethane	19	U
78-87-5-----	1,2-Dichloropropane	19	U
10061-01-5-----	cis-1,3-Dichloropropene	19	U
79-01-6-----	Trichloroethene	19	U
124-48-1-----	Dibromochloromethane	19	U
79-00-5-----	1,1,2-Trichloroethane	19	U
71-43-2-----	Benzene	19	U
10061-02-6-----	trans-1,3-Dichloropropene	19	U
75-25-2-----	Bromoform	19	U
108-10-1-----	4-Methyl-2-Pentanone	19	U
591-78-6-----	2-Hexanone	19	U
127-18-4-----	Tetrachloroethene	19	U
79-34-5-----	1,1,2,2-Tetrachloroethane	19	U
108-88-3-----	Toluene	19	U
108-90-7-----	Chlorobenzene	19	U
100-41-4-----	Ethylbenzene	19	U
100-42-5-----	Styrene	19	U
1330-20-7-----	Xylene (Total)	19	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL915

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796775

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096775A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 48

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.82	100	JB R
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
 Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
 Matrix: (soil/water) SOIL Lab Sample ID: 796775
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096775C04
 Level: (low/med) LOW Date Received: 04/12/96
 % Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96
 Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) Y pH: 6.7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	490	U
111-44-4	bis(2-Chloroethyl) ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
108-60-1	2,2'-oxybis(1-Chloropropane)	490	U
106-44-5	4-Methylphenol	490	U
621-64-7	N-Nitroso-di-n-propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
111-91-1	bis(2-Chloroethoxy) methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	UJ
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	490	U
208-96-8	Acenaphthylene	490	U
606-20-2	2,6-Dinitrotoluene	490	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	490	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893
Matrix: (soil/water) SOIL Lab Sample ID: 796775
Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096775C04
Level: (low/med) LOW Date Received: 04/12/96
% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96
Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 6.7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
51-28-5-----	2,4-Dinitrophenol	1200	U
100-02-7-----	4-Nitrophenol	1200	U
132-64-9-----	Dibenzofuran	490	U
121-14-2-----	2,4-Dinitrotoluene	490	U
84-66-2-----	Diethylphthalate	490	U
7005-72-3-----	4-Chlorophenyl-phenylether	490	U
86-73-7-----	Fluorene	490	U
100-01-6-----	4-Nitroaniline	1200	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200	U
86-30-6-----	N-nitrosodiphenylamine (1)	490	U
101-55-3-----	4-Bromophenyl-phenylether	490	U
118-74-1-----	Hexachlorobenzene	490	U
87-86-5-----	Pentachlorophenol	1200	UJ
85-01-8-----	Phenanthrene	490	U
120-12-7-----	Anthracene	490	U
86-74-8-----	Carbazole	490	U
84-74-2-----	Di-n-butylphthalate	490	U
206-44-0-----	Fluoranthene	490	U
129-00-0-----	Pyrene	490	U
85-68-7-----	Butylbenzylphthalate	490	U
91-94-1-----	3,3'-Dichlorobenzidine	490	U
56-55-3-----	Benzo (a) anthracene	490	U
218-01-9-----	Chrysene	490	U
117-81-7-----	bis(2-Ethylhexyl) phthalate	56	J
117-84-0-----	Di-n-octylphthalate	490	U
205-99-2-----	Benzo (b) fluoranthene	490	U
207-08-9-----	Benzo (k) fluoranthene	490	U
50-32-8-----	Benzo (a) pyrene	490	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	490	U
53-70-3-----	Dibenzo (a,h) anthracene	490	U
191-24-2-----	Benzo (g,h,i) perylene	490	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796775

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096775C04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs found: 15 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.73	24000	JAB R
2.	UNKNOWN (BC)	5.51	1200	JB R
3.	UNKNOWN	5.66	110	JN
4.	UNKNOWN	6.16	160	J
5.	UNKNOWN AMINE	6.43	130	JV
6.	LABORATORY ARTIFACT	11.07	150	J R
7.	UNKNOWN CARBOXYLIC ACID	12.08	240	JN
8.	UNKNOWN KETONE	13.32	110	J
9.	UNKNOWN	13.78	480	J
10.	UNKNOWN	13.81	230	J
11.	UNKNOWN	13.87	730	J
12.	UNKNOWN	14.15	160	J
13.	UNKNOWN	16.40	150	J
14.	UNKNOWN	24.47	110	J
15.	UNKNOWN	24.51	110	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096342B56

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L Q

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	UJ
75-09-2	Methylene Chloride	8	JB U
67-64-1	Acetone	10	UJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	UJ
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	UJ
591-78-6	2-Hexanone	10	UJ
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U

FORM I VOA

OLM03.0

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL916

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096342B56

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

OLM03.0

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER Lab Sample ID: 796342

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096342C02

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L		Q
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl) ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-di-n-propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

FORM I SV-1

OLM03.0

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916
Matrix: (soil/water) WATER Lab Sample ID: 796342
Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096342C02
Level: (low/med) LOW Date Received: 04/11/96
% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/16/96
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
51-28-5-----	2,4-Dinitrophenol	25 UJ	
100-02-7-----	4-Nitrophenol	25 U	
132-64-9-----	Dibenzofuran	10 U	
121-14-2-----	2,4-Dinitrotoluene	10 U	
84-66-2-----	Diethylphthalate	1 J	
7005-72-3-----	4-Chlorophenyl-phenylether	10 U	
86-73-7-----	Fluorene	10 U	
100-01-6-----	4-Nitroaniline	25 U	
534-52-1-----	4,6-Dinitro-2-methylphenol	25 U	
86-30-6-----	N-nitrosodiphenylamine (1)	10 U	
101-55-3-----	4-Bromophenyl-phenylether	10 U	
118-74-1-----	Hexachlorobenzene	10 U	
87-86-5-----	Pentachlorophenol	25 U	
85-01-8-----	Phenanthrene	10 U	
120-12-7-----	Anthracene	10 U	
86-74-8-----	Carbazole	10 U	
84-74-2-----	Di-n-butylphthalate	10 U	
206-44-0-----	Fluoranthene	10 U	
129-00-0-----	Pyrene	10 U	
85-68-7-----	Butylbenzylphthalate	10 U	
91-94-1-----	3,3'-Dichlorobenzidine	10 U	
56-55-3-----	Benzo (a) anthracene	10 U	
218-01-9-----	Chrysene	10 U	
117-81-7-----	bis (2-Ethylhexyl) phthalate	10 U	
117-84-0-----	Di-n-octylphthalate	10 U	
205-99-2-----	Benzo (b) fluoranthene	10 U	
207-08-9-----	Benzo (k) fluoranthene	10 U	
50-32-8-----	Benzo (a) pyrene	10 U	
193-39-5-----	Indeno (1,2,3-cd) pyrene	10 U	
53-70-3-----	Dibenzo (a,h) anthracene	10 U	
191-24-2-----	Benzo (g,h,i) perylene	10 U	

(1) - Cannot be separated from Diphenylamine

24

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL916

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol: 1000 (g/mL) mL

Lab File ID: GH096342C02

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/16/96

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/18/96

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 6

(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	6.33	20	J
2.	UNKNOWN	6.44	3	J
3.	UNKNOWN ALCOHOL	7.21	3	J
4.	LABORATORY ARTIFACT	9.45	5	J
5.	UNKNOWN CARBOXYLIC ACID	10.77	4	J
6.	UNKNOWN SUBSTITUTED PROPANOI	11.04	7	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL917

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796776

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096776B56

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
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74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	UJ
75-09-2	Methylene Chloride	8	UJ
67-64-1	Acetone	10	UJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	UJ
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	UJ
591-78-6	2-Hexanone	10	UJ
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U

FORM I VOA

OLM03.0

15

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL917

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796776

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096776B56

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL917

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER Lab Sample ID: 796776

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096776C02

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10 U	
111-44-4	bis(2-Chloroethyl) ether	10 U	
95-57-8	2-Chlorophenol	10 U	
541-73-1	1,3-Dichlorobenzene	10 U	
106-46-7	1,4-Dichlorobenzene	10 U	
95-50-1	1,2-Dichlorobenzene	10 U	
95-48-7	2-Methylphenol	10 U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10 U	
106-44-5	4-Methylphenol	10 U	
621-64-7	N-Nitroso-di-n-propylamine	10 U	
67-72-1	Hexachloroethane	10 U	
98-95-3	Nitrobenzene	10 U	
78-59-1	Isophorone	10 U	
88-75-5	2-Nitrophenol	10 U	
105-67-9	2,4-Dimethylphenol	10 U	
111-91-1	bis(2-Chloroethoxy)methane	10 U	
120-83-2	2,4-Dichlorophenol	10 U	
120-82-1	1,2,4-Trichlorobenzene	10 U	
91-20-3	Naphthalene	10 U	
106-47-8	4-Chloroaniline	10 U	
87-68-3	Hexachlorobutadiene	10 U	
59-50-7	4-Chloro-3-methylphenol	10 U	
91-57-6	2-Methylnaphthalene	10 U	
77-47-4	Hexachlorocyclopentadiene	10 U	
88-06-2	2,4,6-Trichlorophenol	10 U	
95-95-4	2,4,5-Trichlorophenol	25 U	
91-58-7	2-Chloronaphthalene	10 U	
88-74-4	2-Nitroaniline	25 U	
131-11-3	Dimethylphthalate	10 U	
208-96-8	Acenaphthylene	10 U	
606-20-2	2,6-Dinitrotoluene	10 U	
99-09-2	3-Nitroaniline	25 U	
83-32-9	Acenaphthene	10 U	

FORM I SV-1

OLM03.0

26

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL917

Lab Name: CompuChem Env. Corp. Contract: 68D50004
Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916
Matrix: (soil/water) WATER Lab Sample ID: 796776
Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096776C02
Level: (low/med) LOW Date Received: 04/12/96
% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/16/96
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U
86-30-6-----	N-nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	10	U
56-55-3-----	Benzo (a) anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis (2-Ethylhexyl) phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo (b) fluoranthene	10	U
207-08-9-----	Benzo (k) fluoranthene	10	U
50-32-8-----	Benzo (a) pyrene	10	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	10	U
53-70-3-----	Dibenzo (a,h) anthracene	10	U
191-24-2-----	Benzo (g,h,i) perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

27

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL917

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER Lab Sample ID: 796776

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096776C02

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I SV-TIC

OLM03.0

28

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL918

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796349

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096349B56

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
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74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	8	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	2	J
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	UJ
591-78-6	-----2-Hexanone	10	UJ
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (Total)	10	U

FORM I VOA

OLM03.0

17

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL918

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796349

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096349B56

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL919

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796779

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096779B56

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
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74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	8	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	2	J
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL919

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796779

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096779B56

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL920

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 797003

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN097003B56

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L Q

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U

FORM I VOA

OLM03.0

Signature 4/16/96

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL920

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 797003

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN097003B56

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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27.				
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29.				
30.				

APPENDIX F
TARGET AND ACTUAL ANALYTICAL OBJECTIVES

Appendix F Data Quality Objectives for RAP Samples

Matrix	Analysis	Units	Targeted Detection Limit	Actual Detection Limit	Target Accuracy	Actual Target Accuracy	Target Precision	Actual Precision	Target Completeness ^a	Actual Completeness
Water	Volatiles	µg/L	10	2 - 10	76 - 115%	36 - 106%	14%	33%	90%	91%
	Semivolatiles	µg/L	10	10-25	7 - 125%	36 - 106%	20%	33%	90%	91%
	Inorganics	µg/L	0.2 - 5000	0.2 - 1090	7 - 125%	43 - 108%	20%	35%	90%	91%
	Ordinance Compounds ^b	µg/L	0.02 - 13.0	5 - 11.0	50 - 150%	12 - 241%	50%	60.2%	90%	91%
Sediments	Volatiles	µg/kg	10	2 - 28	59 - 138%	36 - 106%	24%	33%	90%	91%
	Semivolatiles	µg/kg	330 - 830	460 - 2400	19 - 137%	36 - 106%	50%	33%	90%	91%
	Inorganics	mg/kg	0.02 - 5.0	0.14 - 422	75 - 125%	43 - 108%	20%	35%	90%	91%
	Ordinance Compounds ^b	mg/kg	0.25 - 2.2	0.63 - 6.03	50 - 150%	12 - 108%	50%	60.2%	90%	91%

^aCalculated from comparing planned and actual analytical results, including analyte rejections and field sampling plan deviations.

^bOrdinance compounds analyzed by EPA SW-846 Method 8330 (Revision 0, November 1992) under a RAP contract.

Notes:

RAP Regional Analytical Program
µg micrograms (1E-6 gram)
L Liter
mg milligrams
kg kilograms



EMCON Northwest, Inc.

15055 SW Sequoia Parkway • Suite 140 • Portland, Oregon 97224 • (503) 624-7200 • Fax (503) 620-7658

April 17, 1995

Project 40139-001.049

Mr. William Webber
Valley Landfills, Inc.
P.O. Box 807
Corvallis, Oregon 97339

Re: Results of Groundwater Monitoring at Coffin Butte Landfill, Benton County,
Oregon

Dear Mr. Webber:

This letter describes the results of groundwater sampling and analysis of selected wells at the Coffin Butte Landfill for radioactive substances. Five wells were sampled, four of which are downgradient of cell 1A, and one upgradient of the landfill. The downgradient wells monitor shallow and deep groundwater zones. The results demonstrate that there is no leaching of radioactive material from the landfill to groundwater. Below, EMCON describes the methods and procedures used for sampling and analysis.

Groundwater samples were analyzed for gross alpha and gross beta particle activities in water. The analytical method is a screening technique for alpha and beta particle activities according to the limits set forth under the Federal Safe Drinking Water Act (SDWA). The standard for gross alpha particle activity under the SDWA is 15 picocuries per liter. There is no standard for gross beta.

The water samples were collected on March 3, 1995, from wells MW-10S, MW-10D, MW-11S, MW-11D, and MW-13 consistent with the water sampling and analysis plan for the Coffin Butte Landfill. The samples were sent to Energy Laboratories, Inc., of Casper, Wyoming, for analysis.

The laboratory results (attached) show that gross alpha activity was not detected in samples from four of the five wells. In one of the samples (from MW-10S), a trace of gross alpha activity was measured at a level that is well below the standard. Gross beta activity was measured in samples from three of the wells, one of which is the background well (MW-13). The gross beta activity in the downgradient wells is equivalent to or less than that measured in the background well.



Mr. William Webber
April 17, 1995
Page 2

Project 40139-001.049

If you have any questions about the results, please call.

Sincerely,

EMCON



Eric J. Tuppan, R.G.,
Senior Project Geologist

Attachments: Laboratory Report

cc/att: Dorothy Atwood; EMCON, Portland

**ENERGY
LABORATORIES**

ELI. IGY LABORATORIES, INC.

P.O. BOX 3258 • CASPER, WY 82602 • PHONE (307) 235-0515
254 NORTH CENTER, SUITE 100 • CASPER, WY 82601 • FAX (307) 234-1639

LABORATORY ANALYSIS REPORT - EMCON-Northwest

Report Date: 03-22-95

Lab I.D. #	Sample I.D.	Sample Date	Gross Alpha (dissolved) pCi/l	Gross Beta (dissolved) pCi/l	Prec ±
------------	-------------	-------------	----------------------------------	---------------------------------	--------

W-13	95-13189	CB-0303 95-1	03-03-95	< 1.0	2.8	2.2
W-10D	95-13190	CB-0303 95-2	03-03-95	< 1.0	3.4	2.7
W-10S	95-13191	CB-0303 95-3	03-03-95	1.9	1.8	< 1.0
W-11D	95-13192	CB-0303 95-4	03-03-95	< 1.0	1.4	1.4
W-11S	95-13193	CB-0303 95-5	03-03-95	< 1.0	< 1.0	
Detection Limit:				1.0	1.0	

Report Approved by: *R.O. Leach*

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Coffin Butte

RECEIVED

WESTERN REGION - SALEM OFFICE

April 27, 1995

Oregon Department of Environmental Quality
Charles W. Donaldson, Manager Solid Waste Western Region
750 Front Street NE Ste. 120
Salem, OR 97310

RE: Alternate daily cover material

Dear Mr. Donaldson:

Coffin Butte Landfill is using the James River Corporation (Halsey) recycled paper sludge for alternate daily cover. Per your letter dated 4/24/95, this material has met your approval for use as a daily cover. We request paying the \$.30 per ton on this material per temporary DEQ rule adopted Feb. 15, 1995. We expect to accept and use 15,000 tons per quarter of the James River sludge for daily cover.

Sincerely,



Gary A. Barton, Controller
Valley Landfills, Inc.

Parameter (MCL in ppb)	MW- 10S	MW- 10D	MW- 11S	MW- 11D	MW- 12S	MW-17	MW-18	MW-19
Toluene (1000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND
1,1,1-TCA (200)	0.2	0.2	0.2	0.6	ND	ND	ND	ND
TCE(5)	ND	0.1	1.5	1.6	2.8	ND	ND	ND
Trichloro- trifluoro- methane	ND	ND	0.1	0.3	ND	ND	ND	ND
Vinyl Chloride(2)	3.0	3.7	0.9	2.0	ND	ND	ND	ND
total Xylenes (10000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND

ND = not detected above method detection limits

Elevated magnesium levels were also detected in MW-10, MW-11, and MW-17 which may be attributed to the disposal of magnesium wastes in Cell 1A by Wah Chang.

The site consultant contends that MW-17 through MW-19 can be used as new compliance monitoring points instead of MW-10 and MW-11 in this area. The results of analyses to date from MW-17 through MW-19 are predominantly 'non-detect' for parameters analyzed, however these wells do not extend into the fresh basalt unit as compared to MW-10D and MW-11D, where vinyl chloride has been detected at or above MCLs (chemical degradation path: PCE-TCE-DCE-vinyl chloride).

Pulp sludge that is used as cover material came into question in 1991 and 1992. A composite sample was analyzed for TCLP metals, TCLP VOCs, dioxin and furan. Only dioxin and furan were detected above method detection limits at 0.96 and 5.0 pg/g or parts per quadrillion.

Information was not available on the potential presence of radionuclides in the groundwater downgradient of Cell 1A. General information from Solid Waste Program representatives indicated that the Oregon Health Division had been notified when the issue was first raised in the mid-80s.

Table 1
Volatile Organic Compounds Detected
Units in ug/l

Parameter	Date	MW-20	MW-21	MCL
MEK	9/29/93	2U*	4	---
	2/24/94	2U	5	
	8/11/94	2U	2U	
	11/4/94	20U	20U	
	2/10/95	20U	20U	
cis-1,2-Dichloroethene	9/29/93	0.5U	0.6	70
	2/24/94	0.5U	0.5	
	8/11/94	0.5U	0.5	
	11/4/94	0.5U	0.6	
	2/10/95	0.5U	0.5U	
Toluene	9/29/93	0.5U	0.7	1000
	2/24/94	0.5U	0.5U	
	8/11/94	0.5U	0.5U	
	11/4/94	0.5U	0.5U	
	2/10/95	0.5U	0.5U	
Chlorobenzene	9/29/93	0.5U	5.0	100
	2/24/94	0.9	3.7	
	8/11/94	0.5U	3.9	
	11/4/94	0.5U	3.7	
	2/10/95	0.5U	2.5	
Total xylenes	9/29/93	0.5U	1.2	10,000
	2/24/94	0.5U	0.5U	
	8/11/94	0.6	0.5U	
	11/4/94	0.5U	0.5U	
	2/10/95	0.5U	0.5U	
1,2-Dichlorobenzene	9/29/93	0.5U	1.0	600
	2/24/94	0.5U	1.1	
	8/11/94	0.5U	0.8	
	11/4/95	0.5U	1.1	
	2/10/95	0.5U	0.5	

* U = the material was analyzed for, but not detected at a concentration greater than the associated value.

One semi-volatile organic compound, bis(2-ethylhexyl)Phthalate, was detected at one sampling event in MW-20 and MW-21 at 40 and 330 ppb, respectively. This compound is a plasticizer commonly found in landfill leachate and also could be attributed to sample containers.

Major cations and trace metals were detected in the groundwater samples collected. The levels of trace metals were below drinking water standards.

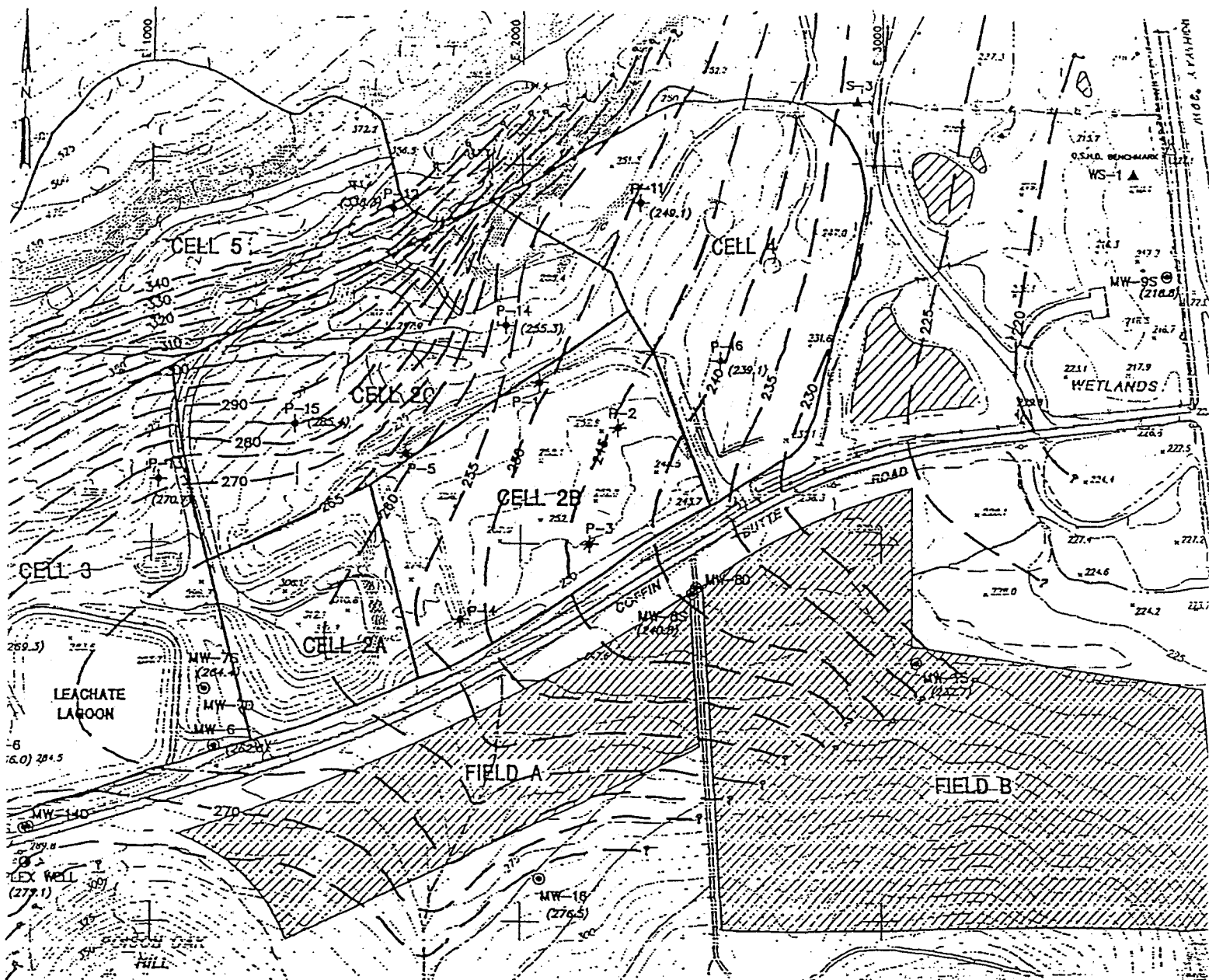
Water quality samples have not been collected from P-9 and P-10. Surface water quality samples collected from upstream and downstream location on Soap Creek indicate increased levels of indicator parameters at the downstream location.

Cells 1 and 1A are located on the south slope of Coffin Butte with a total estimated area of three acres. Seven monitoring wells and well nests were installed downslope of these two disposal cells. Well construction details are provided in Table 2 below.

Table 2
Well Construction Summary

Location	Total Depth (ft)	Screened Interval (ft)	Date Completed	Geologic Unit screened	Status
MW-5/S	4.5	3-4.5	11/16/79	alluvium	decommissioned 5/28/91
MW-5/I	30	24-29	11/16/79	wx basalt*	decommissioned 5/28/91
MW-5/D	58	53-58	11/16/79	wx basalt	decommissioned 5/28/91
MW-10/S	32	22-32	8/2/85	wx basalt	in use
MW-10/D	77	67-77	8/2/85	fresh basalt	in use
MW-11/S	32	22-32	8/5/85	wx basalt	in use
MW-11/D	75	65-75	8/5/85	fresh basalt	in use
MW-12/S	26	21-26	9/19/91	wx and fresh basalt	in use
MW-12/D	61	55-60	9/19/91	fresh basalt	in use
MW-17	27	16-26	7/15/93	wx basalt	in use
MW-18	21	11-21	7/15/93	wx basalt	in use
MW-19	24	13.5-23	7/16/93	wx basalt	in use

wx basalt = weathered basalt



DATE 7/94
DWN. DHK
APPR. EJT
REVIS.
PROJECT NO. 0139001.03



Domestic Wells
Landfill Cells